

Oracle® Primavera Unifier

User Help



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1

Welcome to Primavera Unifier

Within the documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Note

The instructions and information presented in the Unifier documentation are based on an out-of-the-box setup and before being customized by the user.

Designing, building, and managing facilities requires extensive collaboration between numerous, often geographically dispersed, disciplines and entities. Throughout the process, from conceptual design to facility operations, access to accurate, up-to-date information is critical to the success of a project and facility.

Primavera Unifier is an integrated platform that optimizes business processes and creates visibility to enable customers to better manage all of the communications and information required to successfully manage a facility throughout the life cycle.

Unifier is a system for managing the flow of information in projects/shells, providing a seamlessly automated and integrated environment across the life cycle of your company's facilities, from planning, design, procurement, construction and into operations and maintenance. It provides real-time visibility across multiple projects/shells to help your company make fast, accurate decisions.

Unifier lets you track and manage information such as budgets, project or shell members, specifications, requests for information, and shared documents. You decide who has access to the information, which team members are allowed to approve changes to the information, and how information flows between people.

Oracle Primavera solutions automate manual processes and pull together information from various point systems typically used on a portfolio of projects/shells. Through Unifier, executives and project or shell team members can better manage all data and business processes in one centralized system, while reducing the reliance on older technologies such as e-mail, fax, and desktop applications.

Unifier was designed from the ground up specifically for the facility owner, based upon our industry domain expertise and knowledge of best practices combined with direct customer input gathered over decades of client interaction. The result is a robust set of capabilities with an intuitive, easy-to-use interface. Primavera Unifier enables leading owners and operators to increase enterprise efficiencies, reduce project and operating costs, enhance visibility, and improve time-to-market.

2

Getting Started with General Operations

Within the documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Primavera Unifier is a project lifecycle management solution for capital planning, project delivery, cost control, and facilities and real estate management. Unifier provides governance across all project phases, from planning and building to operations and maintenance.

There are two modes of operation:

- **User mode**  :
Used to enter and access information and perform tasks. Most users do their work in **User** mode. **User** mode allows users to perform day-to-day activities, collaborate through business processes and Mailbox, maintain managers (for example, Cost Manager, Activity Manager, and Document Manager), and run reports.
- **Admin mode**  :
Used for all administrative tasks to set up and configure features and modules. Access to **Admin** mode functions is usually limited to a few users within a company. Company administrators work in **Admin** mode to set up, for example, company and project/shell properties, user permissions, templates for major features, data structures, and configure and set up business process (BP) workflows.

You can switch between modes using the mode icon.

Note

The instructions and information presented in the documentation are based on an out-of-the-box (OOTB) setup and before being customized by the user.

Permissions (Access Control)

The ability to utilize a specific function depends on the **Permissions Settings** (accessed in **Admin** mode). In **Admin** mode at the **Company Workspace**, you can use the **Access Control** functional node to access permission settings for:

- Administration (Admin) mode access
- User mode access

Access to system functionality is granted through **Access Control** or **Permissions**.

Note

This option is not available in the **Home**  tab because the **Home** tab does not support **Admin** mode.

The Unifier user guides are:

- *Unifier General User Guide*
- *Unifier Business Processes User Guide*
- *Unifier Managers User Guide*

Each user guide explains how to use specific parts of the application.

This guide explains how to work with Unifier and covers a range of topics, such as what to know the first time that you use the system, security guidelines, reports, and using the Unifier Mobile Application.

About Consent Notices (Users)

Consent notices alert you to the need to protect personal information (PI). You and your organization might be collecting, processing, storing, and transmitting PI while using Unifier. When you accept a consent notice, your consent covers the collection, processing, storing, and transmission of PI data in all areas of Unifier and means of retrieving data from the system including but not limited to project export, downloaded tables, reports, documents, web services, API, and Unifier. If you refuse consent, you might not be able to access some areas of the system.

You may be asked to provide consent to show that you understand the need to treat PI as secure data. You may also be asked to provide consent for your organization to collect, process, store, and transmit your PI. If you refuse consent, you will be denied access to the system.

Cookies Policy

When using Unifier, the server may generate cookies and send them to the user's browser. The user's machine stores the cookies, either temporarily by the browser, or permanently until they expire or are removed manually.

Each user that signs in to Unifier web will see a notification banner (Cookies in Unifier) that notifies the user that Unifier uses cookies. This banner has a link to the Unifier cookie policy which explains what information is being tracked by way of cookies. The user must click **Got It** to access the rest of the Unifier application.

Oracle might use cookies for authentication, session management, remembering application behavior preferences and performance characteristics, and to provide documentation support. Also, Oracle might use cookies to remember your log-in details, collect statistics to optimize site functionality, and deliver marketing based on your interests.

For more information on Oracle's data collection processes and privacy commitments, see:

Oracle Cloud Services Agreement

<http://www.oracle.com/us/corporate/contracts/saas-online-csa-us-1894130.pdf>

Oracle Privacy Policy

<https://www.oracle.com/legal/privacy/services-privacy-policy.html>

Oracle Data Processing Agreement

<https://www.oracle.com/corporate/contracts/cloud-services/>

Product Accessibility Information

This topic includes guidelines and tips regarding accessible product usage.

Keyboard Shortcuts

The list of keyboard shortcuts for Oracle Primavera Unifier and Oracle Primavera Portal (access point for your Oracle Primavera applications), including page-specific and browser-specific keyboard shortcuts, can be accessed in the [Navigating the System Using a Keyboard](#) topic.

Common Symbols, Icons, and Tabs: What to Expect

The following are common symbols, icons, and tabs in the application and what they signify for the user.

Asterisks

An asterisk (*) after a column or field name indicates that the field is required. The field must be populated with valid information or users will encounter an error.

Navigating the System Using a Keyboard

You can use your computer keyboard to navigate throughout the system. Use the Tab key on your keyboard to cycle through elements within the application and press the Enter key on your keyboard to access them. Use the application keyboard shortcuts to access frequently used or important functionality.

Note

The keyboard shortcuts might change depending on the browser that you use.

Main Content Area

Use Ctrl and + or Ctrl and - to zoom in and zoom out anywhere in the application.

Use the Tab key on your keyboard to highlight the toolbar buttons and press Enter to make the action applicable.

Grids

A grid contains content rendered in a tabular format. Any grid has a similar method of interaction. Grids are extensively used in places such as the logs (for example: Business Process Record log, Line Item list, Document Manager log, Cost Manager log, Mailbox, and so on), Sheets (for example: Cost Sheet, Funding Sheet, Cash Flow worksheet, Activity Sheet, Portfolio Manager Sheet, and so on).

Only the rows that are visible are rendered. As you navigate up and down the table, more items will be visible.

To enter the table, tab to it. Tabbing to the table will cause an overlay to be displayed with the message Press tab to skip over this widget. Press Enter, Esc or click to enter the grid.

Use Arrows or Tab and Shift + Tab to navigate through the table. To move focus to another cell when you reach the end of the row, use the Arrows or Shift + Tab.

Editable Grid

Any grid that has editable content has a similar method of interaction. Examples of such grids are the Line item grids seen in business processes, manual entry columns in Cost Sheet, and so on.

Press F2 or Enter to put the cell in edit mode.

To select a value from a list of values (from the fields of type **Pull Down**, navigate to the cell by tabbing, and press F2 or Enter. Use the Up and Down Arrows to highlight an option. Press Enter to select the option.

To select a value from a calendar picker (from the fields of type **Date** and **Date Only** pickers), navigate to the cell by tabbing, and press F2 or Enter. Use the Tab key to change the Month and Year selection and use the Up and Down Arrows to highlight an option. Press Enter to select the option.

Individual Web Elements

Hyperlink Fields

1. Tab to enter into the Hyperlink field.
2. Press Enter to view the Hyperlink field attributes.
3. Tab to the Name field and enter your choice.
4. Tab to the URL field and type in the URL.
5. Tab to access the Clear, Cancel, or Done options.
6. Press Enter to select choice and close the hyperlink field.

Pull-Down

1. Tab into the cell.
2. Press Enter.
3. Use Up and Down Arrows to highlight the option.
4. Alternatively, type the value.
5. Press Enter to select the option.

Picker

1. Tab into the cell.
2. Press Enter.
3. Type a value for the Display Element.
4. Press Up and Down Arrows to highlight choice.
5. Press Enter to select choice and close picker.

Multi Select Input fields

Option 1:

1. Tab into the cell.
2. Press Up and Down Arrows to highlight choice.
3. Select your choice.
4. Press Enter to select it.

Option 2:

1. Tab into the cell.
2. Type a value.
3. Press Up and Down Arrows to highlight choice.
4. Press Enter to select it.

Date Picker fields**Option 1:**

1. Tab into the cell.
2. Type the date in the format specified.
3. Press Enter.
4. Tab out of the cell.

Option 2:

1. Tab into the cell.
2. Use the Up, Down, Left, and Right arrows to select a value.
3. Tab to select the Action button.
4. Press Enter.

Number Fields

1. Tab into the cell.
2. Enter the value.
3. Tab out of the cell.

Text Fields

1. Tab into the cell.
2. Enter the string.
3. Tab out of the cell.

Using Shortcut Keys

The following tables list the menu options that have shortcut keys. If an option is not listed, it does not have a shortcut key.

Function Keys Supported in Unifier

Command	Function Key
Reload / Refresh	F5

Command	Function Key
Close browser windows	Alt + F4

Hot keys Supported in the Editable Grid of Unifier

Command	Hot Key
Select All	Ctrl A
Cut	Ctrl X
Copy	Ctrl C
Paste	Ctrl V
Undo	Ctrl Z
Redo	Ctrl Y

Keyboard End User Information

The following table explains the keyboard shortcuts for specific UI elements such as lists and menus:

Target	Key	Action
List Item	Enter or Space	Selects list item.
	Up Arrow	Moves focus to the previous visible list item.
	Down Arrow	Moves focus to the next visible list item.
	Right Arrow (Left Arrow in RTL)	For horizontal navigation list and focus will be moved to next visible item.
	Left Arrow (Right Arrow in RTL)	For horizontal navigation list and focus will be moved to previous visible item.
	Home	Moves focus to the first visible list item.
	End	Moves focus to the last visible list item.
	F2	If focus is on a list item, pressing F2 will make its contents accessible using Tab.
	Esc	When F2 mode is enabled, press Esc to exit F2 mode.
Group Item	Shift+Tab	Move focus to hierarchical menu option. This is only applicable for sliding navigation list and when hierarchical menu option is enabled.
	Right Arrow (Left Arrow in RTL)	If focus is on collapsed node, expands the sub list.
	Left Arrow (Right Arrow in RTL)	If focus is on expanded node, collapses the sub list.

Target	Key	Action
List Item in sublist	Esc	Applicable only for sliding navigation list. If focus is in a sublist, it closes the sublist and moves focus to the parent list item.
Hierarchical Menu button	Enter	Open menu. Refer to the menu keyboard documentation. This target is visible only for sliding navigation list.
	Tab	Moves focus to current list item. This target is visible only for sliding navigation list.
	Shift + Tab	Moves focus to Previous Icon. This target is visible only for sliding navigation list.
Overflow Menu button	Enter or Space	Open menu. Refer to the menu touch documentation. This is applicable only for horizontal navigation list when overflow is set to pop-up.
Previous Icon or List Header	Enter	Collapses the sublist and slides to parent list. This target is visible only for sliding navigation list.
	Tab	Moves focus to Hierarchical Menu option. This target is visible only for sliding navigation list.

Information for First Time Users

Before you can configure your computer for use with Unifier and install certain plug-ins, you must have Administrator privileges on the local machine. Always review this information with your IT department.

If you receive a message regarding the Base Currency for the company the first time that you sign in, select **OK** and contact your Company Administrator. The Base Currency is the default currency used by the company. Although it might be set by Oracle when the system is first provisioned, the Base Currency must be selected the first time that the Company Administrator signs in. No other users are allowed to sign in until the Company Administrator sets the Base Currency.

Configuring Your System for Unifier

Ensure that the necessary browser settings (within the supported browsers) are configured for the computers that access Unifier. For the full list of system requirements and versions, refer to *Unifier Tested Configurations* (on-premises only) or *Unifier Client System Requirements* (cloud and on-premises).

Supported Browsers and Settings

You can use Unifier with the following supported browsers:

- **Microsoft Edge**

- **Mozilla Firefox**
- **Google Chrome**
- **Apple Safari**

Note

- For the full list of system requirements, supported software, and versions, refer to the *Unifier Tested Configurations* and the *Unifier Client System Requirements* documents.
- For additional information about plug-ins, go to: https://www.java.com/en/download/help/enable_browser.xml, or <https://www.java.com/en/download/faq/chrome.xml>.

Microsoft Edge

Refer to Microsoft Edge Help to see the details on language settings and how to set up the options explained here.

Mozilla Firefox

Refer to Mozilla Firefox Help to see the details on language settings. If your internet settings are customized, contact your IT for more information. When finished, sign out of the application and close the browser completely for the new settings to take effect.

For plug-ins, follow these steps:

1. Open the **Firefox** browser, or restart it if it is already running.
2. From the Firefox Menu Bar, select **Tools**, and then select **Add-ons**.
3. In the Add-ons Manager window, select **Plugins**.
4. Select the Java (TM) Platform plug-in (Windows) or the Java Applet Plug-in (Mac OS X).
5. Ensure that the option "**Ask to Activate**" or "**Always Activate**" is selected. For older versions of Firefox, select **Enable**. Note that if the button displays Disable, Java is already enabled.

Google Chrome

Refer to Google Chrome Help to see the details on language settings. If your internet settings are customized, contact your IT for more information. When finished, sign out of the application and close the browser completely for the new settings to take effect.

Note

AutoVue viewing is not supported in Google Chrome.

Apple Safari

Refer to Safari Help to see the details on how to set up the options explained here.

To use Apple Safari, open the browser preferences and set Java to run in unsafe mode. Go to **Preferences**, under Security select **Java**, select **Run in Unsafe Mode**, and select **OK**.

For plug-ins, follow these steps:

1. Select **Safari**, and select **Preferences**.
2. Select the **Security** option.
3. Select **Allow Plug-ins**, and then select **Manage Website Settings**.
4. Select the Java item, and select one of the options: Ask, Allow, or Allow Always (from the **When visiting other websites** list).
5. Select **Done**, and close the **Safari Preferences** window.

User Interface (UI) Content and Internationalization

The contents that appear in the application UI (also known as System Strings) cannot be modified by the Users. The System Strings are available in different languages, per user preferences.

Example

Sign In and Terms and Condition pages, Menus, Alerts, and Errors

In contrast, the content of the material created by the Users (also known as Custom Strings) can be translated into different languages. For more information, see [Translating Custom Strings \(Internationalization\)](#).

Example

Business Process (BP) name, Data Element (DE) label, pull-down values, radio button, text in lines, navigation log names, and multi select values

Note

- The user input data (data entry) in Business Processes (BPs), attribute forms of various managers (Cost Manager, Document Manager, and so on), and other similar elements, when entered at runtime, cannot be translated.
- User's data entry must be saved "as-is" and include support for single and multi-byte characters UCS Transformation Format—8-bit (UTF-8).

For more information, see [Internationalization](#).

User Name and Password

To sign in, you might start by signing in to Construction and Engineering Lobby first or you might sign directly in to Unifier. However, before you can sign in to Lobby or Unifier, you must have a user account, which will provide you with a Login Username and a Password that you can use to sign in to the system. Your Unifier Company Administrator(s) should be able to create your user account and provide you with your Login Username and Password.

Note

If Oracle Primavera Customer Support Team is administering the setup and user administration for your company, you will receive your Login Username and Password directly from them.

Sign In for the First Time

To sign in to the system for the first time:

1. Enter username and password.
2. Select **Sign In**.
3. Select **Accept** in the Consent Agreement.

Note

- The Construction and Engineering Lobby lets you access your projects that are managed in both Unifier and Oracle Primavera Cloud. For details about the Lobby, refer to the [Construction and Engineering Lobby Help](https://docs.oracle.com/cd/F23711_01/help/en/202246.htm) (https://docs.oracle.com/cd/F23711_01/help/en/202246.htm).
- After you sign into the Lobby, you can view all the projects/shells that you are a member of.

The Password Recovery secret questions setup form is displayed.

To set up the security questions, if the system redirects you to the security setup form:

Note

You would see a blurred background of the last instance before logging off if you logged in earlier but did not setup the security questions.

1. In the password recovery form, select the questions and enter the answers to the required fields.
2. Select **Save** to save the entered values.
3. Select **Done** to exit the form. You are brought back to the instance that you were in before logging off.
4. Alternatively, select **Sign out** to exit the form if you do not want to setup the security questions.

To determine whether the company policy makes it mandatory for you to set up the password recovery secret questions:

1. In the upper-right corner, select the user control panel.
2. Select **Preferences**.
3. Select **Security**.

The password recovery secret questions are marked as required fields with the selected questions and the answers provided at the time of login.

Note

The answers are masked.

Forgot Password (on-premises only)

You can reset your own password by answering security questions, if this option is made available to you by the Administrator.

Note

Enabling the user to use security questions to reset password must be done by the Administrator at the company level. Oracle recommends that the Administrators set up security questions so users can reset their own passwords.

If the option to use security questions to reset password has been made available, then the system directs you to the setup page to enter your security questions and proceed with changing your password.

If the option to use security questions to reset password has not been made available, the system does not direct you to the setup page. In this case, you must contact your Administrator to request password reset.

To reset your password:

1. In the Sign In window, select **Forgot Password**.
2. Enter your user name and email address, and select **OK**.
3. Answer your Secret Question(s), and select **Submit**. You will receive an email notification containing your reset password. Use the new password to sign in.

To add secret questions to use when resetting your password:

1. Sign in to the system, and select **Preferences** in the upper-right portion of the application window.
2. Select the **Security** tab.
3. Under Password Recovery Secret Questions, select a question and enter the answer. You can add up to three Secret Questions.

Sign In, Sign Out, and Session Timeout

To sign in, you might start by signing in to Construction and Engineering Lobby first or you might sign directly in to Unifier. The Lobby lets you access your projects that are managed in both Unifier and Oracle Primavera Cloud. After you sign into the Lobby, you can view all the projects/shells that you are a member of. For details about the Lobby, refer to the [Construction and Engineering Lobby Help](https://docs.oracle.com/cd/F23711_01/help/en/202246.htm) (https://docs.oracle.com/cd/F23711_01/help/en/202246.htm).

To sign in:

1. Open your browser, and enter the web address that your site administrator has provided for you.
The Sign In page appears based on the supported browser language. If the browser is not supported, the Sign In page appears in English.

2. Enter your user name.
3. Enter the password that was set for you during installation.
4. Select **Sign In** to open the application.

Note

- After signing in, the language will be based on the Language selected in **Preferences**. See [Preferences](#).
- If you receive a message regarding the Base Currency for the company the first time that you sign in, select **OK** and contact your Company Administrator. The Base Currency is the default currency used by the company. Although it might be set by Oracle when the system is first provisioned, the Base Currency must be selected the first time that the Company Administrator signs in. No other users are allowed to sign in until the Company Administrator sets the Base Currency.

If you have trouble signing in, check to ensure that:

- The Caps Lock function is not on (user names and passwords are case-sensitive).
- You entered the correct user name and password.

If you still have trouble signing in, contact your Company Administrator or Oracle Customer Support.

After signing in the first time, you may want, or be required, to change your password.

Note

Save your work often.

To sign out:

1. Select your user name to open a contextual menu.
2. Select **Sign Out** from the upper-right corner of the application window.

Session Timeout

By default, the session timeout is set to 30 minutes, which means that the system starts displaying a **Session Inactive** warning after approximately 25 minutes of inactivity. However, your system administrator might have changed the default setting. If the setting is set to five minutes or less, the system does *not* display a warning.

- If you select **Stay Signed In**, your session remains active and you will not lose any session data. This applies to sessions running in other browser tabs.
- If you do not respond, or if you are inactive for more than the default or the setting specified by your system administrator, one of the following occurs:
 - If your environment uses single sign-on (SSO), the system displays this message toward the end of your session's timeout setting: **Your session has timed out. Single Sign-On may automatically sign you in again, but any unsaved data will be lost.**
 - If your environment does not use SSO, the system does not display a message but does show the sign-in page.

Signing In to Self-Service Portal

Portal Users

Portal users can access the Unifier website and Portal website. After the Portal user logs in, the Portal landing page is displayed.

Self-Service Portal

Certain business processes can be enabled for access through the Self-Service Portal. The actions users can take through the Self-Service Portal are:

- Create a business process
- Modify a business process
- Add or remove business process attachments
- Add General Comments to a business process

Sign in to the Self-Service Portal

To sign into the Self-Service Portal Landing Page:

1. In your web browser, enter the URL you use to access Unifier, followed by /portal. For example: `https://your-web-address.com/portal`
2. Enter your Self-Service Portal user name and password.
3. Select **Sign In**. The landing Page opens.

Note

You must have the proper permissions to use the options indicated below.

Self-Service Portal Navigation

The Portal has a fixed **Home** tab along with Portal Business Processes (BPs) tabs.

- You can re-sequence the tabs through drag-and-drop.
- Unifier retains the last saved tab sequence.
- You cannot close the tabs.

To open or edit an existing record:

1. Select the business process tab. The business process log opens in the right pane, listing all available records that you have permission to view.
2. Select the record from the log, and select **Open**. The record opens in the view-only mode.
3. To edit the details, select **Edit**.
4. To submit the edited record, select **Submit**.

Note

You must have the proper permissions to create, view, or edit portal-enabled records.

Self-Service Portal Home Page (Landing Page)

If your administrator has set up an active (**Home**) landing page, the active (**Home**) landing page is displayed. If your administrator did not setup an active (**Home**) landing page, a system-provided **Home** landing page is displayed. The system-provided **Home** landing page has the following attributes:

- This page contains pie-charts for each of the BPs.
- The pie-chart has status-based colors corresponding to the status of the BP.
- If there are no records for a given portal BP, an informational text is displayed. Under each pie-chart a grid is displayed that contains the Record Number, Title, and Status information.
- Only the top five records are displayed, in descending order, based on the last updated date.
- You cannot open the record from the grid. When you select the pie-chart, the system opens the respective BP tab.

Note

All the Portal enabled BPs will get a tile on the Portal landing page, based on user permission. If there are more than 3 BPs, the system displays a scroll bar for viewing more tiles. The order of tiles is determined by the most recently updated BP records.

Self-Service Portal Business Processes Log (Master Log - Business Processes Grouping Node)

The log enables you to see the records and conduct the following:

- **Create:** To create new records.
- **Actions:** To select the following options for bulk selection of records:
 - **Bulk Edit:** This option is displayed if you have the permission.
 - **Print:** Provides user the ability to print multiple records as per the selected format (**HTML**, **PDF**, and **Custom**)
 - **Transfer Ownership:** Transferring the ownership to another user. This option is available if you have the "Modify Ownership" permission.
 - **Terminate Record:** Terminating a record. This option is available if you have the "Terminate Workflow" permission.
- **View:** To see the views that have been defined in Business Process Configuration. For example: All Records, Records Created by Me, Create New View, and Manage Views.
- **Edit View** (✎): To edit the view settings.
- **Refresh** (↺): To refresh the items on the page.

- **Print:** To print the log content, Export to CSV, or Export to Excel.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Search** (): To open the Search window and search the log based on pre-defined uDesigner search fields.
- **Find Page** (): To conduct a search within the displayed page content.
- **Help** (): To view help options.

The *gear menu* (), displayed in front of each record when hovering over the record, enables you to:

- **Open:** To open a record.
- **Copy with Attachments:** To copy a record.
- **Copy without Attachments:** To copy a record.
- **Print - HTML:** To print a record.
- **Print - PDF:** To print a record.
- **Print - Custom:** To print a record.
- **Transfer Ownership:** To transfer the record ownership to another user. This option is only available when the user has "Modify Ownership" permission.
- **Terminate Record:** To terminate a record. This option is only available when the user has "Terminate Workflow" permission.

When you select a record, the log displays a pane on the right side of the page. Use this pane to see the record details and attachments by using the following tabs:

- **Record Details**
- **Attachments**

Self-Service Portal: Creating and Submitting a New Record (Existing Users Only)

1. Select a business process to work with from the log in the left Navigator.
2. Select **New**.

Note

The **New** option displays if this element is designed in Unifier Configuration. If not, you need to select **Create**, as explained below.

3. Fill out the business process form.
4. Select **Submit**.

Self-Service Portal: Preferences (User Preference)

The **Preferences** window enables you to enter specific information by using the following tabs:

- **General:** The Personal Information contains only the First Name and Last Name fields.
- **Security:** Some of the options are not available for cloud customers.
- **Email Subscription:** This option is not available in Self-Service Portal.
- **Region Format**
- **Proxy:** This option is not available in Self-Service Portal.
- **More**

See [Preferences](#) for additional details about the **Preferences** window.

Security Warnings

The first time you perform certain functions in the system, security warnings may appear from third party software confirming the use of Java plug-ins from these business partners.

Follow the instructions below to prevent the warnings from recurring every time that you use the functionality that requires these certificates.

Preventing a Security Warning from Recurring

A first time user may receive a security warning. When prompted by your browser to acknowledge a security warning, you may select your browser option to ignore future warnings. The setting to ignore warnings varies by browser.

File Viewer Option

The following discusses a basic user preference setting that should be configured before using the system for the first time.

For more information regarding all **Preferences** settings, see [Preferences](#).

File Viewer Option (Select Default Viewer)

There are two methods of viewing files:

- **Native:** The Native viewer lets you view most file formats in the application in which you created or regularly view them. In other words, if you view a .docx file in Native, Microsoft Word will open and display the .docx file. If your Company Administrator enabled Office 365 integration, you can also view and update Microsoft Office documents in the Document Manager and BPs using Microsoft 365 (Office for the web). You can view and

modify Excel (XLSX), PowerPoint (PPTX), and Word (DOCX) files; you can only view Comma Separated Values (CSV) files.

- **Unifier Viewer:** Unifier Viewer is the default option. It lets you view and mark up documents. The markups are saved as markups without changing the original file. Unifier Viewer supports the document file types listed in the table below. When you add documents through a business process (BP) or the Document Manager (DM), a brief delay might occur while the system converts the file so that it can be viewed and marked up using Unifier Viewer.

Supported 2D File Formats in Unifier Viewer

The following 2D file formats are supported in the 2D Files tab of Unifier Viewer:

File Type	File Type	File Type	File Type	File Type	File Type	File Type
BMP	DOTX	JFIF	ODT	PPSX	TXT	XLT
CSV	DWF	JP2	PDF	PPT	VSD	XLTM
DGN	DWG	JPC	PNG	PPTM	VSDX	XLTX
DOC	DXF	JPEG	POT	PPTX	WMF	
DOCM	EMF	JPG	POTM	PUB	XLS	
DOCX	EML	MSG	POTX	RTF	XLSB	
DOT	GIF	ODP	PPS	SVG	XLSM	
DOTM	HTML	ODS	PPSM	TIF	XLSX	

Supported 3D File Formats in Unifier Viewer

The following 3D file formats are supported in the 3D Files tab of Unifier Viewer:

File Type	File Type	File Type
IFC 2x3	IFCZIP	RVT
IFC 4	NWC	
IFC 4.1	NWD	

Supported File Formats with Downloaded Unifier Wallet ZIP File (On-Premises Only)

The following file formats are supported if you downloaded the Primavera Unifier Wallet ZIP file:

File Type	File Type	File Type
DOC	JFIF	TIF
DOCM	PDF	XLS
DOCX	PNG	XLSM
DOT	POT	XLSX
DOTM	PPT	XLT
DOTX	PPTM	
JPG	PPTX	
JPEG	PPS	

Supported File Formats with the optional Apryse WebViewer Server Installation (On-Premises Only)

The following file formats are supported if you install the Apryse WebViewer Server:

File Type	File Type	File Type	
BMP	HTML	PPSM	XLSB
CSV	JP2	PPSX	XLTM
DGN	JPC	PUB	XLTX
DWF	MSG	RTF	
DWG	ODP	SVG	
DXF	ODS	TXT	
EMF	ODT	VSD	
EML	POTM	VSDX	
GIF	POTX	WMF	

How Do I Know If Unifier is Cloud-Based and Using ST or MT or If It is On-Premises

Unifier documentation covers both on-premises and cloud deployments, and in most cases is identical for both. However, some content (mostly installation and configuration) might be specific for on-premises while other content is specific for cloud. Additionally, the cloud version of Unifier is supported in single-tenant (ST) and multi-tenant (MT) configurations.

In an on-premises configuration, everything is installed, configured, and hosted locally by the customer.

In an ST configuration, a single instance of the software and supporting infrastructure serves a single customer. With single tenancy, the customer has an independent database and an independent instance of the software, and sharing software is not an option.

In an MT configuration, a single instance of the software and supporting infrastructure serves multiple customers. With multi tenancy, the customers share the software application, but the customer data is isolated and remains invisible to other tenants. If you are using an MT configuration, you have access to other Smart Construction Platform Applications, and the header of the Unifier user interface contains the  **Switch Applications** icon. For more information, see [Access Other Smart Construction Platform Applications](#).

Any content that applies to only one of these deployments is labeled accordingly. For example, you might see topics that include labels such as **On-Premises Only**, **Cloud Only** (which includes both ST and MT configurations), or **MT Only**.

If you are unclear whether you are using a cloud-based deployment of Unifier versus an on-premises deployment, check with your company's site administrator.

Unifier User Interface

The user interface has both static and dynamic elements.

- Header section
- Tabs section
- Left navigation section
- Right pane section

Header

The header section of the interface contains the following elements, from left to right:

- Unifier logo (Primavera Unifier): Displays the application name and environment.
- **Switch Applications** (Access Other Smart Construction Platform Applications.
- **Announcements** (

When a new announcement record is unread, a red bubble count-indicator icon () appears on top of the Announcements icon and indicates the number of unread announcements.

When you select **Announcements**, a grid appears that displays the announcements, with unread ones highlighted in red.

- **Bookmarks** (Bookmarks.
- **View Help menu** (

AutoVue WebStart

Follow the links within each option to proceed.

Customers are requested to use REST services. The Web Service Description Language (WSDL) document can be provided by making a Service Request.

- **Company Help:** If your organization provides company-specific help, you can access this option. If the URL provided by your Company Administrator is invalid, an error message is displayed.
- **Contact Support:** To access a Support window that has two tabs, Contact and Download.

Contact (opens by default): In the Contact Information section of the Contact tab, you can see the name, phone, and contact instructions of someone at your company that you can contact when you need help. For assistance, try this person first.

Note

This information is available only if your company administrator has provided internal support contact information.

In the eLearning section, you see the location (Access), name of the contact (Contact), and any instructions that you might need to access the eLearning materials.

Note

Your company may elect to provide access to the eLearning suite, where you can access interactive learning materials. Alternatively, your company may have its own customized support or training materials that can be accessed on an internal site/location. If your company administrator provides this contact information, it will be listed at the bottom of the window.

- **About Unifier:** Select to access the Version number, Copyright information, Software agreement details for Unifier, Cookie Policy, and Privacy Policy.
- Name of the user: Displays the name of the person who has signed in. If you select the name, you will be able to access the following features:
 - **Get Unifier Mobile App:** Enables you to open a new window and proceed to download the Unifier Mobile Application. Follow the instructions on this window to get the app for both Android and iOS.
 - **Preferences:** Displays the Preferences window, which contains multiple tab, including General, Security, Email Subscription, Region Format, Proxy, and More. See [Preferences](#).
 - **Change Password:** Enables you to open the **Change Password** window. See [Change Password](#).

Note

The **Change Password** option is only visible for on-premises customers, not for cloud customers.

- **Proxy For:** Select to expand the menu and see the list of individuals who selected you as their proxy and sign in as that person's proxy. See [Proxy For](#).
- **Last login: MM/DD/YYYY HH:mm AM/PM:** Displays the date and time when you signed in last.
- **Sign Out:** Enables you to sign out of the system. See [Sign Out](#).

You may see the **Upload Status** icon () appear next to the **Announcements** icon. This happens when there are documents pending to be uploaded. In general, when you go to the **Document Manager** grouping node (for example, **Company Workspace** or **Administration** tabs and then select **Document Manager** where you can upload multiple documents), you can see the **Upload Status** icon on top. The color of this icon changes depending on the upload status. You can select Clear to remove this icon.

Unifier User Interface Location Bar

The location bar at the top of the interface contains the following elements, from left to right:

- **Analytics**  tab
- **Home**  tab
- **Company Workspace** tab
- **Switch to tab**  allowing you to switch to a different tab
- **New tab**  to add a new tab (projects/shells) to the location area
Creating new tabs is useful when navigating to frequently used locations, such as the Company Workspace or projects/shells. You can create an unlimited number of tabs that can be rearranged by selecting and dragging, or removed by selecting the **X** that appears when hovering over a tab. You can remove all tabs except for **Home** and **Analytics**.

When creating a new tab, the location launcher window displays three sections - Recent Locations (recently accessed locations), Key Locations (Company Workspace and single-instance shells), and Bookmarks (locations you have saved in Bookmarks). The height of the initial drop-down dynamically varies based on the number of items in Key Locations.

Use the search bar to quickly find a location. Alternatively, select Open All Locations () to see the log of all available locations to choose from.

You can also create multiple tabs representing the same location to quickly navigate to, or in, different areas within that location.

Tabs maintain their states if you switch tabs. For example: If you are working in **Document Manager (User mode)** and decide to switch to another tab and switch back, the system preserves your view and settings in the **Document Manager** node for when you return. Similarly, when you sign out and sign in again, you return to the tab that you were working with, before you signed out, with your settings preserved.

Note

- First-time users see only the **Home** tab. Returning users see all the tabs that were displayed in the previous version.
- One page or tab must always be present.
- On touchscreen-enabled devices, the close button (x) is displayed for every page or tab in the location bar at the top of the application, instead of being displayed only for the active page or tab.

Left Navigator

The left Navigator (also known as the left Sidebar or left Navigation) lists all the nodes that are available for a company or project/shell.

Note

Your left Navigator setup may differ, but the basic functionality will be the same.

Your company administrator can configure the **User Mode Navigator** to suit the company business needs, such as by creating additional nodes to store business process records, renaming nodes, and so on. To configure the navigator:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.

2. In the left Navigator, select **Configuration**, and then select **User Mode Navigator**.

Every node, feature, and record can be accessed by way of the Navigator, which is always available in the left pane of the screen. The Navigator is similar to a folder system, much like a network drive. Each feature is stored in its own "functional node," similar to a folder, and some nodes may be stored in "grouping nodes" that organize functional nodes based on their properties. Each functional node is controlled by permissions. If you do not see a feature in the Navigator, contact your project/shell Administrator or Company Administrator to verify that you have been assigned the proper access permissions.

As you access different nodes on the left Navigator, the Navigator remains available on the left of the screen, while the content frame on the right changes.

Screen Adjustments

The screen adjustments section at the bottom of the interface contains the following elements, from left to right:

- **Collapse Sidebar** «
- **Expand Navigation** ⊕
- **Collapse Navigation** ⊖

Use **Expand Navigation** and **Collapse Navigation** to expand and collapse all the nodes (modules) in the left Navigator.

Right Pane

This right pane displays all the information pertaining to the nodes (or modules) that are available for a company or project/shell. The right pane houses the logs and pages. Additional functions are available from the options and links at various parts of the pages.

On top, below the company and project/shell tabs, the locator links (breadcrumbs) are displayed. The locator links:

- Enable you to follow the path to the current location
- Always include home

Select the drop-down arrow of a locator link (breadcrumb) to reveal the direct children or sub-shells of that location.

Even if you do not have permission to access a shell, the shell name appears in the breadcrumb trail.

See the following topics for details on each static element, listed above.

The following topics display the dynamic elements of the Unifier user interface, and the explanation for each dynamic element follows.

① Note

The following descriptions are examples of a typical Unifier dynamic user interface and might not be identical to the version that you are using.

Analytics Page

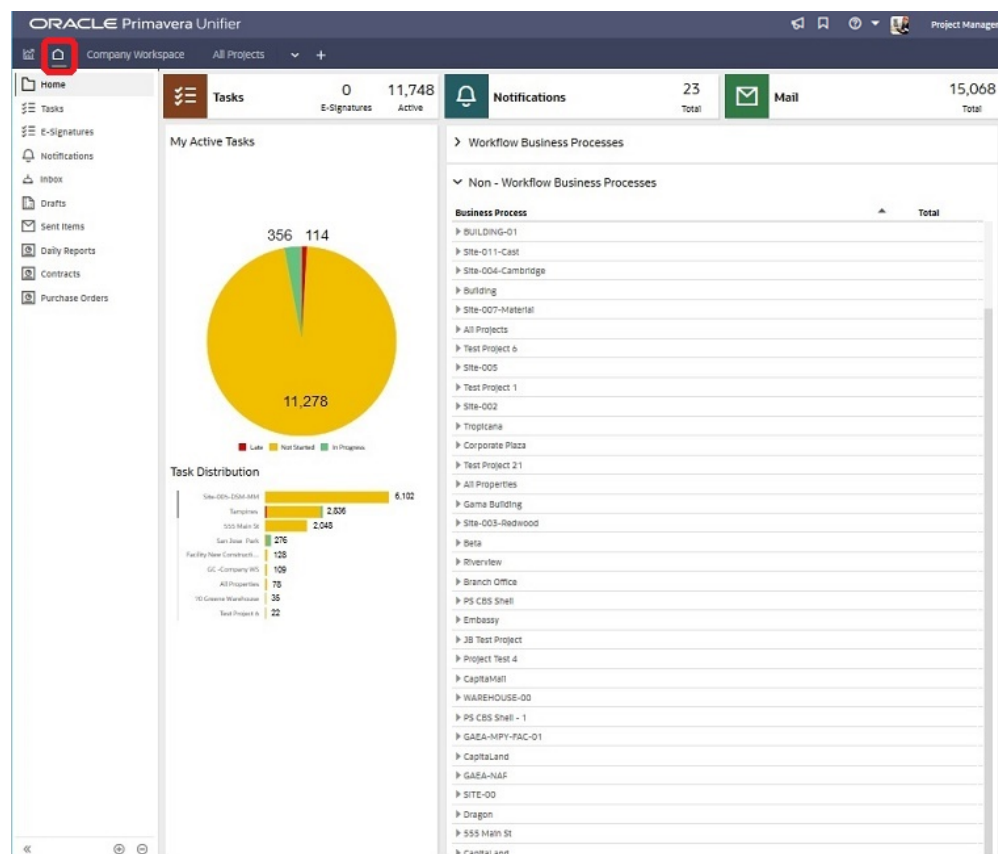
The **Analytics**  page, which is available to users who have permission to access or view the tab, displays analytic information to assist the user to make faster and more informed business decisions by allowing the user to access dashboards that have been set up in Oracle Analytics Server.

Home Tab (Home Workspace)

The **Home**  tab displays the signed-in user's tasks, E-Signature tasks, notifications, emails from various workspaces, daily reports, and so on. In addition, depending on the user's permission, the **Home** tab displays the **Master Log - Business Processes** grouping node. The **Master Log - Business Processes** grouping node lists all the business process types at the project/shell level, in separate functional nodes for each type. This includes workflow, non-workflow, and multiple record business processes.

Note

The **Home** tab does not support **Admin** mode.



The **Home** tab contains the following elements:

- Left navigation, which contains the left Navigator that has several nodes (explained in the table below).
- Log which visually represents information about the user's:
 - Number of tasks (**Tasks**)

- **Notifications**
- **Mail**
- **Active Tasks (My Active Tasks)**
- **Task Distribution**
- **Workflow Business Processes**
- **Non-Workflow Business Processes**

Typically, the **Home** tab contains the following nodes:

Note

Your Navigator setup may differ, but the basic functionality will be the same.

Node or Sub-node	Description
Home	Enables you to access the Home log which provides information summaries for your: • Tasks • E-signatures • Notifications • Mail • My Active Tasks • Task Distribution • Workflow Business Processes • Non-Workflow Business Processes You can select a tile to navigate to the respective log. For example, select E-signatures (in the Tasks tile) to go to the E-Signatures log. Within the left pane of the Home log, you can see pie chart (or a circle chart) statistical graphic, which is divided into slices to represent the number of active tasks by status and workspace distribution. Within the left pane of the Home log, you can see a list of tasks in your workspaces, by business process type and status. You can select a business process name to go to the BP log, within the corresponding workspace (company or project).
Tasks	Enables you to access the Tasks log and attend to the tasks that have been assigned to you.
E-signatures	Enables you to access the E-signature Requests log and attend to any requests that you have received.
Notifications	Enables you to access the Notifications log and attend to the notifications that you have received.
Inbox	Enables you to access the Inbox log and attend to all the emails that you have received.
Drafts	Enables you to access the Drafts log and continue your work with items in draft mode.
Sent Items	Enables you to access the Sent Items log and check for any emails that you had sent.
Daily Reports	Enables you to access the Daily Reports log and attend to reports that you have permission to access.

Node or Sub-node	Description
Contracts	Enables you to access the Contracts log and review the contracts that you have permission to access.

The following provides more details for the **Home** tab nodes:

Tasks

The **Tasks** log has the following toolbar options:

Toolbar Options	Description
Create 	To create a new record. You need to select a value for the following fields: Select Business Process Origin: Your options are company or shell. Depending on your selection, you can select Details  to open the Select Business Process Origin window, select a shell to list the names of available BPs, make your selection, and click Select. Select Business Process: You can select a BP from the drop-down field. You can create BPs records that involve a workflow when working within the Tasks module if you have permission to create BP records. It is important to note that you can only create Workflow BPs, and the list of available Workflow BPs are according to the project/shell that you are in.
Actions	To perform one of the following on any of your tasks, if applicable: Accept Undo Accept Action with Preview Action without Preview Hide Unhide All Print  Note You cannot update the Bidders email addresses in bulk (bulk update through Bulk edit) or within multiple records. You can only change a Bidder's email address in a single record.

Toolbar Options	Description
View	Your options are: • My Daily Reports • Received in last 7 days • Received in last 30 days • Group by Business Process • Group by Origin • Hidden Tasks • All Tasks • Create New View (See information at the end of this topic) • Manage Views
Edit View 	Enables you to open the Edit View window and change the View Name. You can also use the following tabs to change the values of the: Columns • Available Columns • Selected Columns • Lock after selected Column • Number of Records per Page Filters Based on: • Record • Advanced Group By To use the Add Column option, add columns, and arrange the items. Sort By To use the Add Column option, add columns, and arrange the items. After you are finished, you can select: • Cancel to cancel your changes. • Apply to apply your changes. • Save to save your changes. • Save As to save your changes with a different name.
Refresh 	Select this option to update the list of items in your Tasks log.
Print 	To print your tasks (Print) or export your tasks to a CSV or Excel file: • Export to CSV • Export to Excel
Search 	To open the Search window (bottom of the log) and search for a particular item.
Find on Page 	To find a task based on the column headings. When you select this option, the system inserts a row that lets you enter filter parameters.

The **Tasks** log contains multiple columns, such as Project Number, Origin, Business Process, and so on.

Create New View

1. To create a new view for your log, from the toolbar, select **View**, and then select **Create New View** to open the **New View** window. By default, the **Columns** tab is selected.
2. From the **Available Columns** box, select the columns that you need, and select **Move** > to move your selected column to the **Selected Columns** box. The **Selected Columns** box contains the columns that are seen in the log view. The last column in the **Selected Columns** box is not available for locking.
3. In case you want all the available columns to be seen in the log view, select one column in the **Available Columns** box, and select **Move All** >> to move all columns to the **Selected Columns** box.
4. To move multiple available columns at a time, select one column (in the **Available Columns** box), and then hold down the **Ctrl** key and proceed to select each desired column from the **Available Columns** box. Once finished, select **Move** > to move all the highlighted columns to the **Selected Columns** box.
You can move each column in the **Selected Columns** box by using:

- **Move Up** ^
- **Move Down** v

You can move multiple columns in the **Selected Columns** box by using:

- **Move to Top** ^^
- **Move to Bottom** v v

To lock columns in the log view or determine the number of records, or both, use the following drop-down fields in the **New View** window, respectively:

- **Lock after selected Column**
- **Number of Records per Page**

E-signatures

When a Send for E-Signature action is taken, and one or more documents are sent to users (internal user, external user, or proxy user), an entry is made in the **E-Signatures** functional node to enable the user to act on the E-Signatures task. For more information, see [Working with E-Signatures](#). The **E-signature Requests** log has the following toolbar options, which enable you to work with each E-signature item:

Toolbar Options	Description
View	To set the items in the log by selecting one of the following options: • All • Group by Status • Group by Envelope Code • Create New View • Manage Views
Edit View 	To select which columns to display or hide, apply filters, group and sort by available fields, and to save custom views.

Toolbar Options	Description
Delete 	To delete an item in the log.
Refresh 	To update the information displayed on the screen.
Print 	To print the information displayed on the screen. Your other options are: • Export To CSV • Export To Excel
Search 	To search for related items.
Find on Page 	To filter results displayed on the screen. When you select this option, the system inserts a row that lets you enter filter parameters.

The E-signature Requests log contains multiple columns, such as Name, Form, E-Signature Status, Envelope Code, and so on, which provide details about each E-signature item.

When you select an item in the log, the right pane provides additional tabs, such as **Preview** and **E-Sign Log**.

Notifications

When you receive a task, your task appears in the **Notifications** log. The **Notifications** log contains the following toolbar options, which enable you to work with each notification:

Toolbar Options	Description
Actions	To select one of the following actions for your notification: Print • HTML • PDF • Custom Delete
View	To select one of the following options: • All Notifications < Default • Received in last 7 days • Received in last 30 days • Group by Business Process • Group by Origin • All Notifications • My very own view • Create New View • Manage Views
Edit View 	Enables you to select which columns to be displayed or remain hidden, apply filters, group and sort by available fields, and to save custom views.
Delete	To delete an item in the log.
Refresh 	To update the information displayed on the screen.

Toolbar Options	Description
Print 	To print the information displayed on the screen. Your other options are: • Export To CSV • Export To Excel
Search 	To search for related items.
Find on Page 	To filter results displayed on the screen. When you select this option, the system inserts a row that lets you enter filter parameters.

The **Notifications** log contains multiple columns, such as Attachments, Business Process, From, and so on, which enable you to work with and learn more about each notification.

When you select a notification in the **Notifications** log, the right part of the log provides properties information by way of the following tabs:

Record Details tab: This tab provides the details about the selected notification, within the fields in the following blocks:

- **General** block
- **Action Item Information** block
- **Meeting Details** block
- **Description** block

Workflow Progress tab: This tab provides the following workflow details about the BP that was indicated in the selected notification:

- Title
- Record Number
- Current Step
- BP Setup Used
- View Graphic (to view Workflow Progress - Graphic. You can print the graphic)
- Filter By
- Visited Steps

Attachments tab: This tab provides the following details about the attachments that were included in the BP that was indicated in the selected notification:

- File Name
- Title
- Pub. no.
- Tab Name
- Size

For each item in the **Attachments** tab log, the *gear menu* () lets you conduct the following actions on the attached file:

- Open in Office for the web [availability depends on the file type]
- Open

- Open in AutoVue
- Download

Inbox

The **Inbox** is:

- An internal email feature that allows shell team members to communicate with each other and maintain a record of the communications. For shells with View-Only status, Mailbox is available for viewing, but you cannot send, edit, or delete messages.
- The repository that collects external emails related to the shell. These emails can come from shell users or from external users who do not use Unifier. From the Mailbox, users can forward the emails to appropriate members, flag them for review, and reply to them. In addition, these external emails can be linked to business process records.
- A *cross-shell* listing of your **Inbox** can also be accessed in the **Mailbox** grouping node of your *shell*. For more information, see [Accessing Mailbox Messages Across Shells \(Home Tab\)](#).
- A *cross-project* listing of your **Inbox** can also be accessed in the **Mailbox** grouping node of your *project*. The **Mailbox** grouping node displays all the internal and external emails in a project.

Replies from external users can be tracked and monitored from within your **Project Mailbox**. For more information, see [Working with Mailbox \(Projects\)](#).

When you receive an email, your email will appear in the **Inbox** log.

To view all your email messages (Mailbox) across shells:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Inbox**. All messages sent between *shell team members* (messages residing in all shell Mailbox Inbox and Sent folders) are listed.
3. To open a listed message, select it from the list, select the *gear menu* () , and select **Open**.

When an email is selected from the **Inbox** log, the contents of the email are displayed on the right along with the possible actions.

You can use the *gear menu* () to perform the following actions: **Open**, **Flag** (all available options are displayed), **Clear Flag**, **Print**, and **Delete** for each record.

The following toolbar options are displayed on the **Inbox** log:

Toolbar Option	Description
Actions	This option enables you to take the following actions: • Flag: To flag one or more emails. All the following available sub-options are displayed. • Call • Do not Forward • Follow up • For Your Information • Forward • No Response Necessary • Read • Reply • Reply to All • Review • Clear Flag: To clear the flags. This option is context-sensitive. • Print: To print the log. • Delete: Delete one or more emails.
View	To customize the view according to the following criteria: • Received in last 7 days • Received in last 30 days • Group by Business Process • Group by Origin • All Items • Create New View • Manage Views This submenu also contains all views that you have created.
Edit View 	To edit the view (columns) of the Inbox log.
Search 	To open the Search window and enter search parameters. You can search for items that are not currently displayed in the log.
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
Refresh 	To refresh the log screen.
Expand All Groups OR Collapse All Groups	When you expand a group from the log and select an item: • The <i>gear menu</i> lets you Open, Flag, Clear Flag, Print, or Delete the item. • The Inbox log splits and the right of the page becomes the reading pane for the message.

Drafts

Select **Drafts** to see all the business processes that are in a preliminary version. You can navigate to the **Drafts** functional node from the left Navigator.

The following columns and icons are displayed in the log:

- Attachments  (displays if the upper form of the drafts has any attachments)
- Business Process (Name of the BP)
- Record Number (Record number of the Draft)
- Title (Title of the draft)
- Origin (The source name where the draft was created)
- Last Saved (The date that the draft was last saved)

From the **Drafts** log, you can use the *gear menu* () to perform the following actions: **Open**, **Go to Origin**, and **Delete**.

When a draft record is selected from the log, the **Record Details**, **Workflow Progress**, and **Attachments** tabs are displayed on the right pane.

Toolbar Option	Description
Actions	The following option is displayed: Delete : to delete drafts.
View	To customize the view according to the following criteria: • Saved in last 7 days • Saved in last 30 days • Group by Business Process • Group by Origin • All Drafts • Create New View • Manage Views This submenu will also contain all views that you have created.
Edit View 	To edit the view of the log. You can edit the view of the following elements on your log: • Columns • Filters • Group By • Sort By If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name. You can select Clear to clear your selections.
Refresh 	To refresh the log screen.

Toolbar Option	Description
Print 	To print the contents of the log, export to CSV, or export to Microsoft Excel.  Note - For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. - If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
Search 	To open the Search window and enter search parameters. You can search for drafts that are not currently displayed in the log.
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

When you select a draft in the **Drafts** log, the right part of the log provides properties information by way of the following tabs:

- **Record Details** tab
This tab contains the details associated with the BP record, which can be edited when the BP record is opened from the drafts log.
- **Workflow Progress** tab
This tab provides the following workflow details about the BP that was indicated in the selected notification:
 - Step Name

- Assignee
- Company
- Status
- Action
- Completion Date
- **Attachments** tab
This tab provides details about the attachments that were included in the BP that was indicated in the selected draft.

Sent Items

You can use the **Sent Items** functional node to open the **Sent Items** log and check for any emails that you had sent.

The **Sent Items** log has toolbar options that are similar to the **Inbox** log.

The **Sent Items** log has columns that are similar to the **Inbox** log.

Each item in the log, when selected, has a *gear menu* () , which lets you Open, Flag, Clear Flag, Print, or Delete the item.

When you select an item in the log, the **Sent Items** log splits and the right side of the page becomes the reading pane for the message.

Company Workspace

The **Company Workspace** tab has two modes:

- **Admin** mode 
- **User** mode 

For more information about the **Company Workspace** tab, see [Company Workspace Landing Page \(User\)](#) and see [Company Workspace Landing Page \(Admin\)](#).

Shell or Project

The **Shell** page, or the **Project** page, has two modes:

- **User** mode
- **Admin** mode

A shell is a “container” in which users can organize entities, such as projects or facilities. This shell is where users can organize business information in one place to make managing it easy. A shell can include the functions and features necessary to manage the information in that shell, such as a Document Manager and a Cost Manager.

Standard “projects” work in a similar manner. The difference is that a shell is not required to function like a time-based project. A shell can encompass a static entity, such as a university campus, where maintenance activities are on-going. An example of such a shell could encompass a college campus to track building maintenance and new additions. You could include a Space Manager for improvements and remodeling, a Document Manager for all the

documents and drawings necessary for new additions, and a Generic Cost Manager for costing functions.

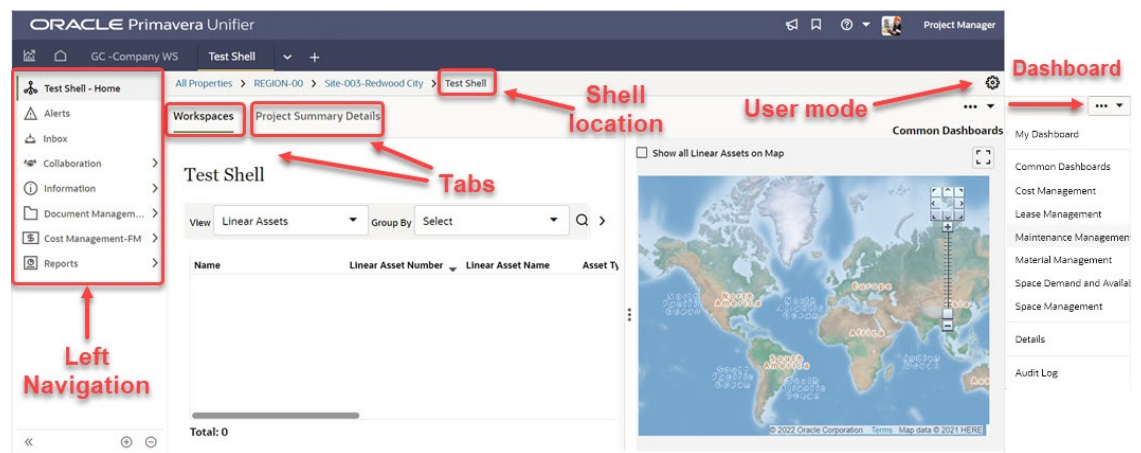
Shells can be arranged in hierarchies to represent a company's physical or organizational structure, such as:

- State
- City
- Property
- Building

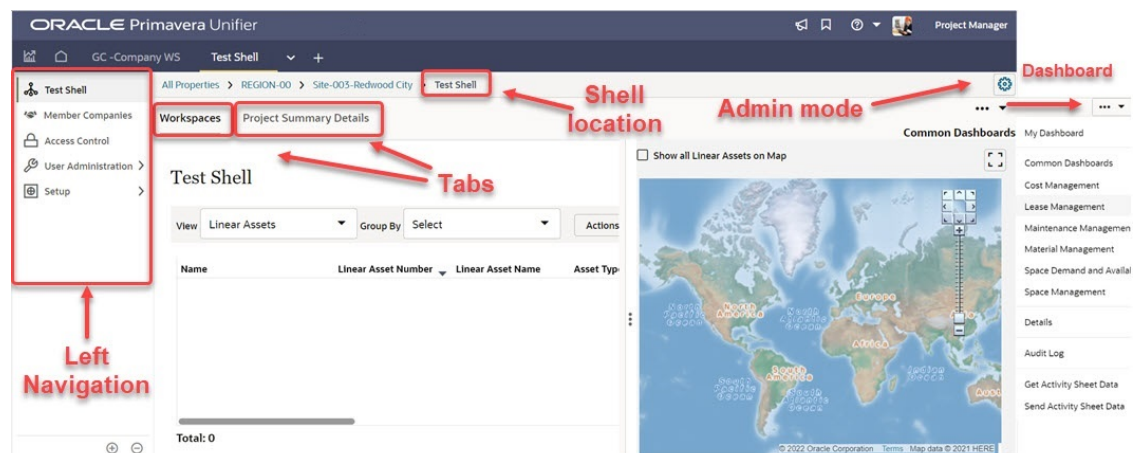
Shell Dashboard

A dashboard that is accessible at the shell level and can be used to view data within a particular shell hierarchy. There are several types of shell dashboard: My Dashboard or Shell Instance Dashboard.

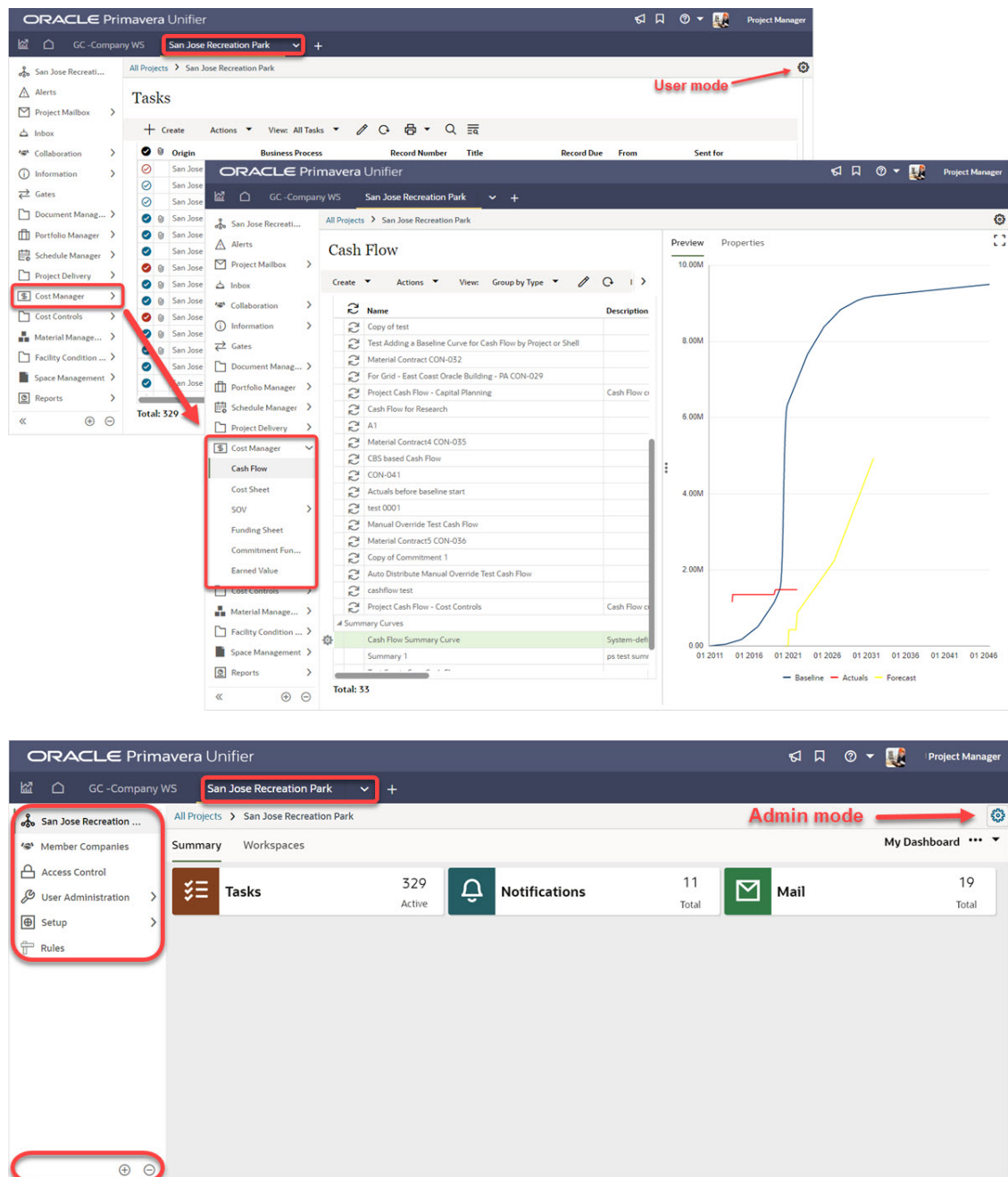
The following image shows the typical **User** mode for the **Shell** tab:



The following image shows the typical **Admin** mode for the **Shell** tab:



The following are for a shell-project:



Preferences

To access the **Preferences** (user preferences) window:

1. In the upper-right corner of your window, select your user name to open a contextual menu.
The menu offers a limited set of choices that are available in the current state, such as Get Unifier Mobile App, Preferences, and so on.
2. Select **Preferences** and then select the following tabs as needed:
 - [General Tab](#)
 - [Security Tab](#)

- [Email Subscription Tab](#)
- [Region Format Tab](#)
- [Proxy Tab](#)
- [More Tab](#)

General Tab

Use the **General** tab of the **Preferences** window to view your company contact information as it is listed in the company directory. This information includes your Name, Title, Email, Work Phone number, Mobile Phone number, Pager number, Fax number, and Address.

Note

- The Company Administrator manages user profiles, including the contact information. Contact your Company Administrator if you want to update your information.
- If the **Hide personal information on user profiles** option is selected (by the administrator) in the **Security** tab of the **Company Settings**, you cannot view the basic information, which includes field values such as email address, phone number, and so on. This applies to the basic information that is available as a part of a user profile.

To add a photo to your profile, select **Upload Profile Photo** on the left. The Image picker supports images of type jpg, jpeg, png, and tiff.

Security Tab

Use the **Security** tab (of the **Preferences** window) to:

- Change password
- Manage password reset and recovery (on-premises only)
- Manage secret questions.

Note

- You cannot recover/reset your password if you do not set up password recovery secret questions and corresponding answers.
- For better security, change your password at regular intervals. Your Company Administrator may require you to change it at set times.
- When you change your password, you will automatically be logged out. Log in again with your new password.

You can change your password in two ways:

- Using the **Security** tab of the **Preferences** window (for first-time users).
- Using the **Change Password** option (for returning users). See [Change Password](#).

To change your password using the **Security** tab of the **Preferences** window:

1. Go to the **Security** tab in the **Preferences** window.
2. Enter your current password and new password in the Current Password and Password fields. To view the password policy, select **Password Help** above the **New Password** field.
3. Confirm your new password by entering the new password in the Confirm Password field.
4. Under Password Recovery Secret Questions section of the Security tab, select a question and enter the answer. You can designate up to three secret questions.
5. Select **Apply**, and select **OK** to close the **Preferences** window.

To change your password using the Security tab of the Change Password option:

1. In the upper-right corner of your window, select your **User Name** to open a contextual menu.
2. Select **Change Password** to open the Change Password window.
3. Enter your current password and new password in the **Current Password** and **Password** fields. To view the password policy set by the administrator, select **View Password Policy**.
4. Confirm your new password by entering the new password in the **Confirm Password** field.
5. Select **Save** to complete changing your password.

You can recover your password from the Sign In Page. To do so:

1. Go to the Sign In page.
2. Select the **Forgot Password?** link to open the Reset Password window.
3. Enter your user name and email in the User Name and Email fields.
4. Select **Submit** to show the Secret Question.

Note

If you did not set up the Password Recovery Secret Questions, or if your account is Inactive or On-Hold, you will receive an error message instructing you to contact Oracle Customer Support.

5. Enter the answer to your secret question field, and select **Submit**. A system-generated email containing a temporary password will be sent to you automatically.
6. Select **OK** in the Alert window.
7. Go to your email inbox and open the system-generated email titled "Unifier Password Reset Notification" and follow the instructions.

Password/Login Policy

- Minimum overall characters: Minimum number of characters that a password must contain; default is one (1).
- Maximum overall characters: Maximum number of characters that a password must contain.
- Minimum numeric characters: Password must contain a minimum amount of numbers.
- Minimum alphabetic characters: Password must contain a minimum amount of letters.
- Minimum special characters: Special characters are [{~!@#\$%&*()-_+=;:","<.>/?}].

- Password cannot be same as Username: Users cannot use their user name as a password.
- Password cannot be the same as the user's First or Last Name: Users cannot use their first or last name as a password.
- Password cannot be same as last password(s): A newly changed password must be different from the previously used passwords.

Email Subscription Tab

The **Email Subscription** tab lets you set up email subscription details. The tab contains the following blocks and fields:

- Email Subscription
 - Send notifications in single daily digest
- Workflow Business Processes
- Non Workflow Business Processes
- Portfolio Manager
- Document Manager - Project/Shell
- Document Manager - Company
- Mailbox
- User Defined Reports
- Alerts
- Gates
- Project/Shell
- E-Signatures

The following topic provides details.

Selecting Email Subscription Options

The Email Subscription tab lets each user control the number, type, and frequency of Unifier-related email notifications received. Users can subscribe to, or opt-out of, receiving email notifications for events.

Send notifications in single daily digest: Select this option if you want to receive your email notifications in a consolidated email, once a day (single daily digest), instead of receiving the notification emails individually and per event. Deselect this option to receive email notifications individually and per event.

Note

The maximum number of messages in a single daily digest depends on the length of the messages. The system will send up to the latest 100 messages in single daily digest. The older messages will be removed and will not be included in the digest.

Before you begin selecting email subscription options

Permission

To receive an email notification for a module or event, you must have view permission for that module or event. This view permission is set in Admin mode.

Note

If you do not have view permission, your email notifications settings do not override the original permissions (set by your Company Administrator), and you only get email notifications for modules or events that you have permission to view.

Document Manager notifications

In addition to module-level view permission, you must also have at least view permission on the specific documents or folders that would generate the event email. These permissions are set by Company Administrator and from within the Document Manager. In addition, the owner of the folder has the option of not generating email notifications for specific events.

External email accounts

If you are using an email address from a generic email account such as Yahoo, Hotmail, and so forth, your spam filter may filter out these notifications. Refer to your email provider regarding how to allow these notifications to reach your inbox.

To receive email notification for a module or event:

1. Go to the **More** tab in the **Preferences** window.
2. Select your choices from the scrolling window. For more information, see the following tables.

To opt out of receiving email notifications for a module or event, clear the items from the scrolling window.

To subscribe to or opt out of email notifications:

1. Go to the **Email Subscription** tab in the **Preferences** window.
2. Select the modules and events for which you want to receive email notifications. If you do not select a module or event, you do not receive email notifications related to the unselected module or event. For more information, see the following tables.

The events apply to the following modules:

- Workflow business processes
- Non-workflow business processes
- Document Manager - Project/Shell
- Portfolio Manager
- Document Manager - Company
- Mailbox
- User Defined Reports
- Alerts
- Gates

- Project/Shell
 - E-Signatures
3. To opt out of receiving email notifications regarding specific events, clear the checkbox for the notification.
 4. To receive email notifications in one email summary per day, select the **Send notification in single daily digest** checkbox. The summary email will be sent if one or more events trigger an email notification.
 5. When finished, select **Apply** and **OK**.

Note

- For permission-based emails, email notification is usually sent the first time permission has been granted and not when permissions are modified, unless otherwise noted.
- Document Manager email notifications are only sent if users have at least view permission on the affected item and if the item owner enables email notification.

Modules and Events Options

This section describes the events within each module.

Workflow Business Processes

These events pertain to business processes. To receive notification, you must have at least view permission for the business process (BP). You can opt to receive email notification. See the following table for details.

For	When
<i>Personal tasks</i>	You are part of the assignees list when a BP is sent (this becomes a task for you).
<i>Decline tasks</i>	A task is declined by one or more of the assignees that you have added to a BP that you sent.
<i>Overdue personal tasks</i>	An assigned task is past the due date.  Note A notice is only sent once; you will not receive regular reminders of overdue tasks.
<i>Messages</i>	Someone cc's you on a BP.
<i>Record Workflow Complete</i>	The record Workflow is complete and the Workflow end step has been reached; this is applicable on any Workflow BP where user is selected as part of the "Notify users on workflow completion" setup under the Setting tab of BP Setup .

For	When
<i>Record Modification</i>	A certain step occurs in a workflow (if your Administrator has enabled workflow actions for the workflow step) that needs action. Actions are shown as hyperlinks in the email.

Non-Workflow Business Processes

These events pertain to non-workflow business processes. To receive notification, you must have at least view permission for the business process (BP). You can opt to receive email notification. See the following table for details.

For	When
<i>Record Creation</i>	A new record is created.
<i>Record Modification</i>	A record or line item is modified, a line item is added or deleted, comments or attachments are added, attachments are removed.

Portfolio Manager

For	When
<i>Scenario Shared or Approved</i>	When the user has defined the list of users, or groups, in the Portfolio Manager configuration, after the scenario sheet is approved or shared, the respective list of users, or groups, will receive the notification. If the list of users, or groups, is defined in the Portfolio Manager configuration, but the option in user preferences is not selected, the user will not receive any notification. This option is not selected by default. The option will also be seen in the "User Preference Template," in the Preferences tab. When the "update users" action is performed, the value is pushed to the user preferences. The subject of email notification that is received by user states if a Project Portfolio scenario sheet is approved, or approved and shared.  Note Only an active user receives the notifications.

Document Manager - Project/Shell and Document Manager - Company

Note

With this module in particular, a user modifying multiple documents or folders, or folders with many subfolders, can potentially trigger a large amount of email. You can prevent receiving too many notifications by choosing the digest notification (one email) option, or limit the events for which you want to receive notification.

Users with view permission (set in the Document Manager) on the applicable document, folder, or shortcut target receive notification when the following occurs:

For	When
<i>Document upload</i>	A new document is uploaded into the folder.
<i>Transfer ownership</i>	File or folder ownership is transferred. The new owner is notified.
<i>Move</i>	A document, folder, or shortcut is moved from one location or folder to another.
<i>Delete</i>	A document, folder, or shortcut is deleted.
<i>Document revise</i>	A document is revised.
<i>Folder rename</i>	A folder is renamed.

Mailbox

For	When
<i>Personal Mail</i>	Users receive an email notification when new mail is received.
<i>Project Mailbox</i>	Users who have access to the Project Mailbox for a project or shell receive email notifications whenever new mail is received to that mailbox, regardless of whether the project or shell is active or inactive.

User Defined Reports (UDRs)

For UDRs, the users receive email notification under following conditions:

For	When
<i>New report granted</i>	The user is granted at least run permission to a user-defined report by another user.
<i>Results from scheduled reports</i>	When a scheduled report has been generated and the results are available; requires run permission be granted for the report.

Alerts

For alert, the users receive email notification under following conditions:

For	When
<i>Each alert</i>	Users can receive notification when an alert is generated.

Gates

For	When
<i>Change Phase Notification</i>	User receives notification when a phase is changed.
<i>Auto-email PDF Gates run</i>	User receives a PDF copy of an automated gates run.

Project/Shell

For	When
<i>Successful Creation</i>	The Program Manager, Project Manager, or Project Administrator receives notification of the successful creation of a project/shell. This notification occurs if the project/shell is created manually, through Web Services, using a CSV file, or through auto-creation.

E-Signatures

For	When
<i>E-Signature Requests</i>	An internal signee receives email notification for the E-Signature request created in the E-Signatures functional node. When you select the E-signature Requests option in the User Preferences, the system sends an email to the user when an E-Signature request is created for that user in the E-Signatures functional node at company or project/shell.

When you select **Send notifications in single daily digest**, and there are notifications relating to the **E-Signature Requests**, the single digest email to the recipient will contain the E-Signature message along with other messages in the email. The header section (where hyperlinks to each message within the digest are mentioned) contains the hyperlink to the E-Signature message with the text: <Document Name> is sent to you for review and sign.

Note

You do not have the option to send the document as an attachment in the email notification.

You can send the documents in the Document Manager, and the documents attached to a business process record for review and signature to one or more Unifier and non-Unifier users.

Region Format Tab

Use the **Region Format** tab to manage settings such as:

- Language, date, and time format
 - Preferred Region
 - Language
 - Time Zone
 - Date Format
- Number and Currency formats

- Decimal
- Digit Grouping Symbol
- Digit Grouping
- Show Currency Symbol
- Positive Currency Format
- Negative Currency Format
- Negative Number Format

This tab also provides a Currency Example.

Changing Time Zone and Date Format

The following settings are maintained in the **Region Format** tab of your **Preferences**.

The **Time Zone** setting affects the date stamp that appears on the actions that you perform, such as saving or uploading files, running user-defined reports (UDRs), and due dates of tasks assigned to you. The date stamp is effective as of 12:00 AM in your time zone.

Example

If your time zone is Eastern Standard Time and your task is due August 1, then at 12:00 AM August 1 your task is due — even if it is only 9:00 PM July 31 in Pacific Standard Time.

Note

The Time Zone setting is based on the Coordinated Universal Time (UTC).

To set the time zone:

1. Go to the **Region Format** tab in the **Preferences** window.
2. From the **Time Zone** drop-down list, select a time zone based on your locale.
3. When finished, select **Apply** and then **OK**.

The **Date Format** determines how date fields appear.

To set the date format:

1. Go to the **Region Format** tab in the **Preferences** window.
2. From the **Date Format** drop-down list, select a date format.
3. When finished, select **Apply** and then **OK**.

The system supports the following *additional* date formats:

Note

- The time format for all dates is: HH:mm. The Date Format options is displayed without AM to support the 24-hour format. For example, in the Date Format drop-down, instead of MM/DD/YYYY HH:mm AM, MM/DD/YYYY HH:mm is displayed to enable you to select the 24-hour time format. The uppercase MM in the date format denotes month and lowercase mm denotes minutes.
- The system provides you the option to select 24-hour date time format in all modules, after this is set in the user preferences (**Preferences**). This is supported for all Standard, Portal, Partner users, and bidders.

- MM/DD/YYYY
- DD/MM/YYYY
- MM/DD/YY
- DD/MM/YY
- MM-DD-YYYY
- DD-MM-YYYY
- MM-DD-YY
- DD-MM-YY
- DD.MM.YYYY
- YYYY-MM-DD
- MMM/DD/YYYY
- DD/MMM/YYYY
- YYYY/MMM/DD
- M/D/YYYY
- M/D/YY
- D/M/YYYY
- D/M/YY
- YY/M/D
- YYYY/M/D
- YY/MM/DD
- YYYY/MM/DD

Changing Number and Currency Formats

The **Number and Currency Formats** section of the **Region Format** tab of your **Preferences** lets you:

- Select a **Preferred Region** from a list. This is the region that you want.
- Set the **Decimal Symbol** for your currency from a list.
- Set **Digit Grouping** from a list.
- Set **Show Currency Symbol** to show or not.

Note

If the administrator does not select the **Show Currency Symbol** option, the system ignores the options that are selected for **Positive Currency Format** and **Negative Currency Format**, and does not display symbols. The following applies to all objects (such as Form, Sheet, Cash Flow, Dashboard, and Log) that use the Currency Data Element.

- Set **Digit Grouping Symbol** from a list.
- Set **Positive Currency Format** from a list.
- Set **Negative Currency Format** from a list.
- Set **Negative Number Format** from a list.

When finished, select **Apply** and then **OK**.

The Number and Currency Formats section of the **Region Format** tab also provides examples for the following:

- Currency
- Decimal Number
- Integer Number

The examples show the arrangement of the numbers (the way the numbers are displayed) in the forms when a particular formatting option has been selected.

For decimal numeric data, the precision is governed by the "Decimal Places" set in the Data Element properties.

Note

When the Company Administrator creates a User and selects a language, the values of the number formats are populated accordingly and displayed in the **Region Format** tab of the **Preferences** window. The number formatting options are not displayed in the User Properties window. The number formatting options are displayed in the **Preferences** window. If the Company Administrator changes the language value in the User Properties window, the **Region Format** tab of the **Preferences** window shows the same languages as in User Properties window and the number formatting options remain the same.

Changing Language

The following settings are maintained in the **Region Format** tab of your **Preferences** window.

To set the language:

1. Go to the **Region Format** tab in the **Preferences** window.
2. From the **Language** drop-down list, select your language.
3. When finished, select **Apply** and then **OK**.

Note

The languages listed are the active languages selected by the administrator in the **Configuration - Internationalization** log.

The following languages are supported:

- Arabic
- Chinese (Simplified)
- Chinese (Traditional)
- Dutch
- English
- French
- German
- Italian
- Japanese
- Korean
- Portuguese (Brazil)
- Russian
- Spanish

Note

The rendering of Unifier content in Arabic language in third-party applications (such as Email Client, Adobe for PDF, and so forth) is outside of the application purview.

Numeric Format Based on Language Selection

The Numeric formats such as the decimal symbol, grouping, and so forth are based on the language selected for the bidder.

For the Vendors records that are created through CSV or Web Services, the user can specify the values for the Language, Time Zone, and Date Format Data Elements and create Vendors records in Bulk. The existing codes for these fields can be used to specify the values. The list below is derived from the Java API.

Language	Region Format	Decimal Symbol	Digit Grouping Symbol	Digit Grouping	Positive Currency Format	Negative Currency Format	Negative Number Format
Simplified Chinese	Chinese (Simplified, PRC)	. (period)	, (comma)	123,456,789	#123	##123	-123
Traditional Chinese	Chinese (Traditional, Taiwan)	. (period)	, (comma)	123,456,789	#123	##123	-123

Language	Region Format	Decimal Symbol	Digit Grouping Symbol	Digit Grouping	Positive Currency Format	Negative Currency Format	Negative Number Format
Dutch	Dutch (Netherlands)	, (comma)	. (period)	123,456,789	# 123	# -123	-123
English	English (United States)	. (period)	, (comma)	123,456,789	#123	(#123)	-123
French	French (France)	, (comma)	Space represented by blank in the product	123,456,789	123 #	-123 #	-123
German	German (Germany)	, (comma)	. (period)	123,456,789	123 #	-123 #	-123
Italian	Italian (Italy)	, (comma)	. (period)	123,456,789	# 123	-# 123	-123
Japanese	Japanese (Japan)	. (period)	, (comma)	123,456,789	#123	-#123	-123
Korean	Korean (Korea)	. (period)	, (comma)	123,456,789	#123	-#123	-123
Portuguese	Portuguese (Brazil)	, (comma)	. (period)	123,456,789	# 123	-# 123	-123
Russian	Russian (Russia)	, (comma)	Space represented by blank in the product	123,456,789	123#	-123#	-123
Spanish	Spanish (Spain)	, (comma)	. (period)	123,456,789	123 #	-123 #	-123

Proxy Tab

Use the **Proxy** tab to:

- Prevent assigning proxies (**Do not allow Proxies**)

Note

The **Do not allow Proxies** option is only available for the **Company Administrator** (and in **Admin** mode).

- Add multiple proxies (**My Proxy** tab: **Users who can act as my Proxy**)
- See the list of users who can act as your proxy (**My Proxy** tab: **Users who can act as my Proxy**)
- See the list of users who you act as their proxy (**I am Proxy** tab: **Users I can act as their Proxy**)
- See the history of proxy login (**Proxy Login History** tab)

You can select/designate more than one proxy user.

You can be a proxy for multiple people, and you can designate more than one user as your proxy.

Proxy users can be granted permission to access another user's account to complete tasks and perform other functions on that person's behalf. When another person signs in as your proxy user, that person will have access to all the records and functions that you do.

When you designate another user as your proxy, the user will have access to all:

- The records that you have generated
- The functions that you perform

When you designate another user as your proxy, the user will not be able to change your Preference settings and the Audit logs reflect the actions taken by a proxy user as "on behalf of" the original user.

You can limit the period in which the proxy user will have access to your account by specifying a start and end date or leave their access active indefinitely.

Proxy users who are active (Status: **Active**) receive email notification of tasks to perform as proxy. This applies during the time specified time period, using the Start Date/Time and End Date/Time.

Note

If the proxy user must receive task notifications immediately, ask the proxy user to ensure that the Send notifications in a single daily digest checkbox is not selected. See [Selecting Email Subscription Options](#) on the **Preferences** window, **More** tab.

Do not allow Proxies

Only Site/Company Administrators, Company users, and Partner users are permitted to select the **Do not allow Proxies** option.

Note

This option is read-only in the user's **Preferences** window.

Users can add proxy users in their **Preferences** window only if the Site/Company Administrator has not checked the **Do not allow Proxies** option in the **Proxy** tab of Edit User window.

The **Proxy** tab contains the following tabs:

- **My Proxy** tab
This tab enables you to determine the users who can act as your proxy (**Users who can act as my Proxy**). This tab of the **Proxy** tab lists the users who can act as your proxy and allows you to add, adjust the settings, remove proxies, and view the proxy login history.

If enabled by the Administrator, Partner Users can add Owner Company Users as proxy users.

If you have access to more than one Company and want to assign a proxy for yourself in those companies, you need to go into each Company and set the proxy user (select the Company, select your user name, select Preferences, and then select Proxy).

The topics that follow describe available user preference configuration settings for each tab.

- **I am Proxy** tab
This tab enables you to determine who you can be a proxy for (**Users I can act as their Proxy**).
- **Proxy Login History** tab
This tab enables you to see a history of all proxy logins.

Choosing a Proxy User

My Proxy tab

Add

If the **Do not allow Proxies** option is selected by your Company Administrator, this option is not available for you to use.

If the **Do not allow Proxies** option is not selected by your Company Administrator, you can use this option to grant proxy access to other users. To add a proxy, select **Add**, and follow the prompts.

Note

Your Company Administrator can assign other users to act as proxies to your account if you are unable to do so.

You can also select an existing proxy and change the user settings of your proxy, such as start and end date/time. To change the user settings of your proxy, double-click the name of the proxy, and update the applicable fields.

The system sets the values in the time-related fields base on the user's preferred data and time formats.

If you do not specify a start or end date, the proxy user can access your account immediately and their access privileges will not expire.

You can select **Active** to activate your proxy's access. To disable your proxy's access, select **Inactive**.

Remove

You can use this option to remove a selected proxy. To remove a user as your proxy, select the proxy from the list, and select **Remove**.

I am Proxy tab

If you are designated as a proxy for another user, your user name is listed on the **I am Proxy** tab.

Note

As a proxy of a user, you have all the permissions that have been granted to that user except that you cannot change the user's original Preference settings even if the user has Administration permissions.

Proxy Login History tab

Use this option to view the following information about your proxies:

- Name
- Company
- Login Date
- Logout Date

The last login information appears on top.

More Tab

Use the **More** tab to manage company settings such as:

- Viewer Options
 - Default Viewer
- Viewer Exceptions
 - Always use Native
 - Always use Unifier

Choosing a Viewer Option

The following setting is maintained in the **More** tab of the **Preferences** window.

The File Viewer option determines how the system displays files (such as documents or drawings) that are attached to business processes or stored in the **Document Manager** and opened from within the system.

You can choose a default viewer, which is used to open most file types. You can also specify exceptions to this; for example, you might choose Unifier Viewer as the default viewer, which is used to open most file types, but then choose to open a few file types such as drawing files and image files using the native software applications that reside on the your desktop computer. For more information, see [File Viewer Option](#).

To select a File Viewer option:

1. Go to the **More** tab in the **Preferences** window.
2. From the **Default Viewer** drop-down list, select one of the following options:
 - **Native:** Select this option to open documents in their native software applications. To use this option to view files, you must have the applicable native software application installed on your computer or your Company Administrator must have enabled Office 365 integration for use with Microsoft 365 (Office for the web) applications.

Note

The native software application and Microsoft 365 do not display the document graphical markups, but Unifier displays the document graphical markups automatically, using the Unifier Viewer.

- **Unifier Viewer:** Select this option to open documents in the system-provided Viewer. For more information on working with documents, see *Creating and Managing Documents*.

Note

If you select **Unifier Viewer**, the document opens in read-only view, but it supports adding graphical markups and text comments (for example, in attachments to business process and other records, or in files in the **Document Manager**).

3. When finished, select **Apply** and then **OK**.

Setting Viewer Exceptions

The **Viewer Exceptions** section of the **More** tab lets you specify exceptions to the default viewer of your choice.

For example:

If you selected **Unifier Viewer** as the default viewer and want **Native** to show a particular extension and not the **Unifier Viewer**, enter the extension in the **Always use Native** field.

If you selected **Native** as the default viewer and want **Unifier Viewer** to show a particular extension and not your Native software, enter the extension in the **Always use Unifier** field.

Note

- Omit the period before the extension.
- Separate multiple extensions by a semicolon, with no space in between. For example, png;gif.

Change Password

Changing Your Password as an On-Premises Customer

In the upper-right corner of your window, select your user name to open a contextual menu. Select **Change Password** to open the **Change Password** window. In the **Change Password** window you can:

- Change your password.
- View password policy.

Note

When you change your password, you will automatically be logged out. Log in again with your new password.

Changing Your Password as a Cloud Customer

To change a password in your identity domain:

1. In the Primavera Portal, select **Identity Cloud Service**.
2. Log in to the identity domain with your user name and password.
3. Select **Change My Password**.
4. Provide input for the required fields, and select **Submit** when finished. Ensure that the new password complies with the password policy.

Note

Wait five minutes before logging into an account after you have changed your password.

Proxy For

To log in as someone else's proxy user:

1. In the upper-right corner of your window, select your **User Name** to open a contextual menu.
2. Select **Proxy For** to see a list of the users who designated you as their proxy.
3. Select the user name.
4. Select the user account to which you want to log in as a proxy and you will be immediately acting on behalf of the user.

To log out as a proxy user:

Select **Sign Out** at the bottom of the **User Name** contextual menu. Your Proxy session will end, but you will still be signed in to the system under your own user name.

Sign Out

In the upper-right corner of your window, select your user name to open a contextual menu. Select **Sign Out**. For additional details, see [Sign In, Sign Out, and Session Timeout](#).

Bookmarks

The function of bookmarks in Unifier is similar to the bookmarks that you create in a web browser to help you access a web page more quickly, or navigate to frequently used locations.

Note

The system does not validate bookmark names, so ensure that you do not add duplicate or confusing bookmark names.

You can add bookmarks to **User** mode functions where you frequently work.

Note

You cannot add bookmarks when you are in **Admin** mode.

To add bookmarks:

1. Go to the tab/node that you want to bookmark.
2. In the upper-right corner, select **Bookmark**  to open the **Bookmarks** window.
3. Select **Bookmark this Page**.

In the **Bookmarks** window, use the following options to remove, rename, or mark a particular tab as a default tab:

- **Remove**
- **Rename**
- **Mark as Default** (to designate a bookmark as the default module shown to you at sign in)

Note

Accessing a tab/node through a bookmark is based on your user permissions.

To use bookmarks, in the upper-right corner, select **Bookmark**  to open the **Bookmarks** window.

Master Log - Business Processes

Note

The name of this node can be customized.

Select the **Master Log - Business Processes** grouping node in the left Navigator to see all the business processes that you are involved in and you have permission to access. The business processes log displayed (for each of the business processes under the **Master Log - Business Processes** grouping node) is driven by the log design of the respective business process. The log for a non-workflow BP includes an Edit Record column that indicates whether the record is in an editable state by displaying an Edit Record icon . If the record has a status such as submitted, terminal, or initiated, no icon is displayed.

Note

If you do not have permissions to view any of the business process types listed under the **Master Log - Business Processes** grouping node, you will not see the node in the **Home**  tab.

Company Workspace Landing Page (User)

When you sign in, the system is in **User** mode, by default. You can switch between modes using the mode icon (**User** mode  and **Admin** mode ).

Note

The **Home**  tab does not support **Admin** mode.

To access your company landing page (*User*):

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select your company name.
The system displays the company landing page.

The company landing page has the following tabs:

- **General**
- **Summary**

If the administrator does not enable the **Hide tabs in Company Dashboard** option, you can add additional tabs to the company landing page.

To add a new tab:

1. In the upper-right corner, below the **User** mode icon, select **Edit Dashboard**  to open the **Company Dashboard** window.
This window lists the existing tabs and enables you to add, modify (edit), or delete tabs.
2. From the toolbar, select **+ Create Tab**.
3. In the New Tab dialog box, enter a name in the **Tab Name** field, and select **Save**.

The newly created tab will be listed under the existing tabs on the **Company Dashboard** window.

You can add multiple blocks (custom or standard) to each tab of the company landing page.

To add new blocks to a tab:

1. Select the tab.
2. Select **+ Add Block** on the right side of the screen, and select either **Custom** or **Standard**.
You can add both custom and standard blocks to a tab.
3. In the **Source Details** and **Block Details** sections, enter the applicable values.

If you are adding a standard block, the **Data Type** field lets you include workspace type information (such as Active Workspaces, On-Hold Workspaces, and so on) on the company landing page.

4. Select **Save**.

The new block is added to the right pane.

You can also update or remove a tab using the **Edit Tab**  and **Delete Tab**  icons.

You can:

- Update a tab name by using **Edit Tab** .
- Remove a tab by using **Delete Tab** . You cannot delete the **General** tab or **Summary** tab because they are system-generated tabs.
- Reorder the tabs that are displayed on the **Company Workspace** by using drag-and-drop .
- Select which tabs to display on the **Company Dashboard** window by selecting or clearing the corresponding checkbox. You cannot deselect the **General** tab.
- Print a tab  or maximize a tab .

The **General** tab is divided into two sections:

- The left section displays the following information:
 - Company name and image (if it exists in the **Company Information** page).
 - **Description**
 - **Contact**
 - **Home URL**
 - **Help URL**
 - **Addresses**

Other locations, if available, appear as grouping nodes in expanded mode below the first address, and the map picker displays the pin markers for all other locations.

- The right section displays the following information in multiple blocks:
 - **Tasks**
 - **Notifications**
 - Company Workspace records: **Workflow Business Processes**

The Workflow BPs are all the workflow records for the user who has signed in. If the user who has signed in does not have access to any of the Workflow BPs at the Company Workspace level, the panes display a pertinent message. You can select the BP name to navigate to the respective BP log.

- Company Workspace records: **Non-Workflow Business Processes**

The Non-Workflow BPs are all the non-workflow records for the user who has signed in. If the user who has signed in does not have access to any of the Non-Workflow BPs at the Company Workspace level, the panes display a pertinent message. You can select the BP name to navigate to the respective BP log.

The **Summary** tab contains summary information displayed within custom or summary blocks. Similar to the **General** tab, you can add, edit, or delete custom and standard blocks.

Shell Landing Page (User) - Details

To access your shell landing page (User):

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select the project/shell name (**Home** icon).
3. In the upper-right corner, select **My Dashboard** () , and then select **Details** to open the **Details** form.

Depending on your permissions, you can modify any of the shell properties any time during the shell duration, except for the shell currency. (After a shell is set up, the shell currency is locked.) For example, if you want to assign newly defined global views to the project/shell so that they are available to all users, go to the **System Information** section on the **General** tab, click **Select**  next to the **Shell Templates** field, select the applicable template, and click **Select**.

For more information about projects/shells, see [Working with Shells and Projects](#).

The **Details** form enables you to access the following tabs:

Tab	Description
General	This tab has the following blocks: • General • Description • Location This tab lets you view and set the following general information about the project/shell: • Number • Administrator • Location • Description • Status • Latitude • Longitude The fields in the General tab can be customized. You can format the columns when your Display Type is set as Table or Grid. This enables you to re-size, for example the Dashboard View Mode for the Drill-downs, and Standard, or Custom, blocks that the selected Display Type is set as Table or Grid. This is similar to the same feature available for the Business Processes log. The system saves your customized display automatically until another user changes it. You can also reorder the fields under the Detail Form Tab Name. Use the Edit Details Block option (New Standard Block window) to select fields columns (Selected Fields) by dragging and dropping the fields from the Available Fields. You can also use the deflector and collector options. This action makes the order in which the fields are displayed in the Details block of Dashboard match the order defined in the Selected Fields column in the New Standard Block window.

Tab	Description
Currency	In this tab, you can: • See the currency that the shell uses. • Add new currency. • Modify an existing currency.
Images	This tab contains the following options: Attach Images  drop-down menu: • Browse: To upload images directly from the local computer. You can select and add multiple images. If you select multiple images, the images will be displayed in the shell dashboard, on the image block, as rolling images. • Document Manager: To see the image files and folders that are available in a shell Document Manager. You must have the "View" permission to see the images and folders. Use this option to upload images from the local Document Manager (DM) of the particular project. If an image is revised in DM, the revised image is displayed in the shell dashboard, on the image block. You will be able to view images, from DM, in the Dashboard in Admin as well as User modes. In the dashboards, if there are multiple images, the system displays all the images as rolling images. When a shell has multiple images, the system uses the first image from the list to print the shell image through custom prints and reports. The tab also contains a log that lists the names of the images that you have uploaded. You can use Drag Row  to reorder the images on the log. Use Delete  to remove an image.
Options	Enables you to see, add, and set options about the shell such as: • Phase • Time Zone for Background Jobs: This time zone will be used to calculate the time for running the recurring jobs, specific to this workspace. If left blank, the time zone that was set in the Background Jobs (at Company-level) will be used to run the jobs. • Financial Period • Email Address • Send Notification To • Document Manager Attribute Form • Document Manager Attribute Form Used • E-Signature Type
Links	Enables you to add new links and see the existing links in the shell under the following blocks on the window: • New Links • All Links

Tab	Description
Calendar	Enables you to select one of the following calendar types: - Standard Calendar - Custom Calendar (you can copy an existing custom calendar) Select Working and Non Working days by choosing a day and selecting "Working" or "Non Working" below. If you would like to select a specific day of the week to adjust the working status, select the day of the week, and select "Working" or "Non Working" below.
Custom Print Template	Enables you to Add Selective Custom Print Templates for shell-specific business processes. After you select the Add Selective Custom Print Templates checkbox, you can select Add Templates to choose which business process to apply templates to by moving them from the Available Items list to the Selected Items list.
View Forms	If the project administrator set up View Forms in the shell, this tab lists the View and the users and groups with associated permissions.
Gateway Integration	This tab enables you to link multiple P6 Projects with the following information: - Project ID - Project Name - Schedule Type
Primavera Cloud Integration	This tab lets you add a single project to a single Oracle Primavera Cloud project or a single project (in multiple shells) to multiple Oracle Primavera Cloud projects with the following information (for more information, refer to the <i>Unifier General Administration Guide</i>): - Project ID - Project Name (optional) - Primavera Cloud Workspace ID - Integration Type (completed by the system based on the option selected, Primavera Cloud Cash Flow or Primavera Cloud Schedule) You can also remove a project if it has not been synchronized between Unifier and Oracle Primavera Cloud.

Opening records from drill-down Tables and Grid

When in a drill-down, the selected Display Type is Table, or Grid, and the Record Number is selected in the Source Group By, the Record No. turns to a hyperlink. You can select the Record No. to open the record in a pop-up window.

Note

The linked record will only be displayed if you have View or Modify access for the BP record.

The Record Number will not be a hyperlink for the following:

- When source of the selected Data Cube (in Drill-down block) is Data View.
- In the Drill-down block, when the data is only selected from the Current Shell and sub-shells or from sub-shells.
- If the selected Data cube has multiple BPs added as the Data Source.

Working with Shells and Projects

Shells represent your project collaboration workspace, for example:

- Capital Projects
- Maintenance Projects
- Business Portfolios
- Project Delivery Management

With shells, you can show project relationships and hierarchies to represent a real-world physical or organizational structure more accurately. In the following example, indentation is used to represent levels in a hierarchy. In this example, a Building shell can be a sub-shell within a Property or a Region.

- Region
 - Properties
 - * Buildings
 - Buildings
 - * Projects

You can create multiple templates from which you can centrally manage large numbers of shells. The shells you create can have their own business processes, cost worksheets, reports, dashboards, document repositories, and users and groups. You can organize shells into hierarchies that let you pull data from a current shell and any of its subordinate shells. Working together, these features give you visibility into, and control of, your projects.

A Unifier project is a collaboration space that lets project users collaborate on and coordinate the execution of a project. As a Unifier user, you may be part of a sponsor company or a partner company (or possibly both). Sponsor companies can commission and administer projects. Partner, or member, companies (for example, subcontractors and vendors) work with sponsor companies to complete projects.

Note

User access and permission levels for all functions are controlled by the Company Administrator. If you have access-related questions, contact your Company Administrator.

Shells allow users to manage different modules. Projects are also shells that are predefined in the system. The Shell Manager allows shell types to be defined in uDesigner. Administrators can later create one or more instances under each shell type. Each instance can have its own business process, cost manager, reporting module, or other modules as needed.

The following explains how to work with Unifier shells and projects.

Using Shells

Your shell can have one of four statuses.

- **Active:** A live, in-progress shell.
- **On-Hold:** The initial shell status. On-hold shells appear on the shells log. Shell administration functionality is available to shell administrators for setup and maintenance for users with permissions to perform that function. Users cannot create records in a shell that is On-Hold. If a user attempts to access a shell that is On-Hold, the system displays an alert message stating that the shell is On-Hold.
- **View-Only:** View-Only shells can be viewed, printed, exported, and included in reports. You cannot modify any data in View-Only shells. This allows you to view past shells without allowing changes to these shells. If a shell in a shell hierarchy changes to View-Only, you can still navigate up and down the shell hierarchy, and can create sub-shells in the hierarchy under the View-Only shell.
- **Inactive:** Used to suspend shell usage. Inactive shells are visible to Administrators, but not to end users. Only System and Shell Administrators (users with Modify Status rights) can reactivate the project.

Note

If automatic status update is enabled on a shell, the status of the shell can change from Active to another status such as On-Hold, View-Only, or Inactive. The change of status is set up by the Administrator, and is based on defined triggering conditions. For example, if a shell is close to exceeding its funding, it might make sense to put it On-Hold while funding matters are discussed. Your shell administrator must manually change the status back to Active when you are ready to restart the project.

The Shell Administrator will receive email notification when the status of a shell changes. The change of shell status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update.

You can navigate between the current shell and sub-shells through the use of:

- Visible tabs in the Location bar.
- The list displayed when you select **Switch to tab**  or **New tab**  in the Location bar.

Note

You can search for a shell by using the **Search by Name or Number** option at the top of the **New tab** page.

- Breadcrumbs shown for the current shell at the top of its tab.
- Using the list on the Workspaces tab and the location markers (pins) on the map.

Single Instance and Multiple Instance Shell Types

Shells are characterized by:

- A unique system ID
- Single or multiple instance
- Generic or CBS cost code

Shell instances are copies of shell types and have these characteristics:

- An instance of a shell type must exist before the shell type is viewable in User mode
- Shell type single can be a root node or a tab
- Shell type multiple populate levels in a hierarchy Shells and the Cost Managers

Depending on the shell type, the shell is either a single-instance shell or a multiple-instance shell. Single- and multiple-instance shells all appear as tabs, similar to the Home  tab.

- **Single instance:** This type of shell is an anchor shell and *cannot* be replicated. Use this shell at the root of a hierarchy. You cannot make a template of this shell.
- **Multiple instance:** This type of shell can be replicated. Use this shell as a building block for a hierarchy. Multiple-instance shells allow you to create more than one copy of a shell, and they support the use of templates.

Here is an example of how it could work: Your anchor shell is a single-instance shell and might be called Europe. This shell has a tab, and is the root of the hierarchy. Under this shell, you could use multiple-instance shells to create shells that represent countries, such as Holland, France, and Hungary. These building block shells can have templates, so each of these country workspaces can have the same business processes and managers, but they may have different users. The Shell Manager lets you import and manage shells.

To access the hierarchy, in the **Location** bar, select **+** (New tab) and select a shell, which appears as a tab. On the **Workspaces** tab, you can view the list of available sub-shells.

Shell and Cost Managers

The uDesigner determines the shell type. After the shell type is deployed from uDesigner, the administrator defines the hierarchical relationships during shell configuration.

- **Standard Cost Manager:** Uses CBS codes and works with projects/shells. In uDesigner, the administrator can create a shell that uses CBS costing.
- **Generic Cost Manager:** Works with generic shells only. The Generic Cost Manager supports costing for processes or objects that are not of a fixed duration or cost. For example, the following items related to buildings might be managed as separate items within a Building shell:
 - Leases
 - Janitorial support
 - Building maintenance
 - Landscape care
 - Interior updates to a building

The ongoing management of a building does not have a start and end, and you cannot always project the ultimate cost. With the standard Cost Manager, costs have defined start and end dates for projects that have budgets, scope, and schedules. Cost is broken down by work in the various disciplines and is managed using CBS codes.

In the Generic Cost Manager, cost is time-based, not work-based, allowing you to manage costs that do not have a finite timeline, such as facility maintenance and upgrading. You can

plan for these expenses during a time period, such as a quarter or year. Each shell has its own cost manager.

You can combine generic shells and shells that use the CBS cost codes together. You can also create a hierarchy of shells that consists of shells that use the Generic Cost Manager and those that use the standard Cost Manager (CBS cost codes).

In the Generic Cost Manager, cost is time-based, not work-based. You would use the Generic Cost Manager to work with the costs that do not have a finite timeline, such as those associated with maintaining and upgrading the building or facility. You can plan for these expenses during a time frame (such as a quarter or a year). The Generic Cost Manager enables you to track the time and corresponding budget for your ongoing facilities work. Each shell has its own cost manager. The Generic Cost Manager does not include:

- Earned value
- Cash flow
- Funding
- General Spends SOV
- Pay App SOV

Using the Shell Landing Page

To access your shell landing page:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select the project/shell name (the Home icon in the left Navigator). Based on your permissions, you can access the following as the default Shell Landing Page: 
 - Standard Dashboard: If you have access to visualizations, the Standard Dashboard displays a visualization in your default Shell Landing Page. However, you can toggle between the Classic Dashboard and the Standard Dashboard in the tab navigation bar.
 - (Default) Classic Dashboard : By default, the following two tabs are displayed:
 - **Summary** tab
 - **Workspaces** tab



You cannot add or remove the individual tiles. See [Configuring a Shell Dashboard \(My Dashboard\)](#) for details on the shell dashboard and instructions on how to configure the dashboard.

The following topics provide details for each tab.

The block will get displayed back, post removal, by navigating to Add Block, selecting Standard, and then selecting Data Type as "Items Requiring Your Attention." When you save the Standard Block, the block will be added automatically to the dashboard.

The bottom section of the shell landing page displays a log of all sub-shells that have been created under the currently selected shell. For example, if you select the sub-shell South Bay, and then the further sub-shell Mathilda Northwest, this landing page displays.

Standard Shell Dashboard

A standard shell dashboard displays a visualization by default.

Prerequisites

- You have the required permissions to access visualizations.
- Your administrator has configured the shell dashboard to display a visualization.

To access the standard shell dashboard:

1. Go to the relevant shell tab and switch to **User** mode.
2. From the displayed visualization drop-down list, select a specific tab.
3. Perform any of the following actions:
 - To switch to the classic shell dashboard, from the **More Actions (...)** menu, select **Classic Dashboard**.
 - In the classic shell dashboard, to revert to this dashboard, select **Standard Dashboard**.
 - To print the current screen displayed in the visualization, from the **More Actions (...)** menu, select **Print**.
 - If you have Modify or Manage Content permissions, select **Edit** to modify the visualization. For more details on editing visualizations, see the Primavera Unifier Visualization User Guide.

Classic Shell Dashboard

The classic shell dashboards provide an at-a-glance view of project/shell data.

From any shell dashboard, you can:

- Use the drill-down functionality to access the data.
- Use filters so that all blocks in a specific dashboard are filtered based on the same parameter.
- Print the entire dashboard or print individual dashboard blocks.
- Minimize and maximize the entire dashboard or a block.
- Use a free-form dashboard layout that gives you the ability to drag and drop dashboard blocks as an alternative to using predefined layout.

Classic shell dashboards display project data in an at-a-glance format. You can control the dashboard look and content and make it specific to the shell that you are working with.

Shell dashboards cannot pull data from across shell hierarchies. For example, consider two anchor tabs, one called Capital Projects, and one called Facilities. The Capital Projects dashboard can display data from all levels of the Capital Projects hierarchy; however, it cannot display Facilities data because Facilities is a separate, independent hierarchy.

Two types of dashboards are available in project shells:

Administrative dashboard: These are designed by the shell administrator and pushed via templates. Administrators with dashboard Setup permission can create multiple shell dashboards for each project shell. Users can select administrative dashboards to view from the View Dashboard drop-down list on each shell. These dashboards are maintained at the shell

level and are available to any user to view, provided the user has permissions. Users cannot edit an administrative dashboard.

My Dashboard: Designed by an individual user, it is a personalized view that contains only the information the user wants to see.

 Note

In most cases, shell dashboards are configured for you.

Each shell dashboard has at least one tab and can have up to five tabs. The default tab name is **Summary**, which you can change. The default shell dashboard layout contains these four blocks:

- **Image:** Displays the image your company administrator uploaded for the shell.
- **Items Requiring Your Attention:** Contains items that are generally listed on the Home  tab, such as tasks and messages.
- **Details:** Lists shell details, including shell number, shell name, administrator, and other details.
- **Links:** List of links configured for the shell by your company administrator.

On each tab, you can select a different layout to which you can add blocks of these types:

- **Standard:** Use this selection to view project data from, for example, business process, manager, users, and active tasks
- **Portlet:** Use this selection to view an external Uniform Resource Locator (URL), such as a web cam, or a frequently visited web site

 Note

When you specify a URL, the source (the targeted URL) must support the use of an inline frame (iFrame). If the source website does not support iFrame for security reasons, Unifier cannot render or display the site within the portlet block. Instead, the system displays a blank or white page. To work around this issue, you must view the URL in a standard web browser instead of from within Unifier.

- **Drilldown:** Use this selection to slice and dice project-shell data. See [Add a Drill Down Block to My Dashboard](#)
- **Custom:** Use this selection to view data from the current shell, subordinate shells, or both (cannot cross hierarchies)

Summary tab

By default, the shell dashboard contains the following blocks:

Tasks

This block lists the total tasks belonging to the shell. When you select Tasks, you go directly to the Task log. You can add this block in all tabs (in all dashboards) by using the data-source **Items Requiring Attention** in the Standard block. You can also remove the block from My Dashboard.

Notifications

This block lists the total notifications belonging to the shell. When you select Notifications, you go to the Notifications log directly. You can add this block in all tabs (in all dashboards) by using the data-source **Items Requiring Attention** in the Standard block. You can also remove the block from My Dashboard.

Mail

This block lists the total mail belonging to the shell. When you select Mail, you go directly to the Inbox log. You can add this block in all tabs (in all dashboards) by using the data-source **Items Requiring Attention** in the Standard block. You can also remove the block from My Dashboard.

Project Image

This block displays an image, if available; otherwise, the block will be blank.

Details

This block is displayed with either custom fields or default fields based on the configuration of the details block that is designed in uDesigner, shell manager.

You can edit the details block using Edit  or using the Edit Dashboard option. This capability applies to block information, or to the fields that must be displayed in the block.

Links

If links have been added to the shell details, those links are displayed in this block.

Workspaces tab

You cannot hide the **Workspaces** tab in **My Dashboard**. As a result, you cannot deselect the **Show** checkbox for Workspaces.

The **Workspaces** tab is only available if a geographic location (geolocation) is *not* defined. If the tab is visible, it:

- Provides a log that lists the sub-shells.
- Displays a world map on the right pane with no pins if none of the shells have a defined geolocation.

To view pins for defined geolocations, you can select the **Show all <Sites, Buildings, Projects> on Map** checkbox. (The shell type determines what feature replaces the brackets <>.)

- When you hover over a pin (location marker) on the map, you can see the details for the location marker based on available information.
- When you select the pin, you can open the corresponding shell in a new tab.

The **Workspaces** tab has the following toolbar options:

Option	Description
View	For example, Buildings, Cities, Shells, Projects, Regions.
Group By	To view shells in a hierarchical arrangement, select Hierarchy .

Option	Description
Actions	• Get Activity Sheet Data – All Shells – Selected Shells – Filtered Shells – History • Send Activity Sheet Data – All Shells – Selected Shells – Filtered Shells – History
Search	To search for the items.
Find on page	To find an item on the page.
Expand All Groups	If you select Hierarchy for Group By, use this option to expand or collapse the list.

The **Workspaces** tab displays different columns, such as Name, Project Number, Building Number, Status, and so on, based on the shell type.

Note

The columns displayed in the sub-shell log listed on the **Workspaces** tab are dynamically generated based on the fields defined in the **Shell Manager Standard Log** for the selected shell type in uDesigner with the exception that the first column always displays the **Shell Name**. To prevent redundancy, if a **Shell Name** field is also configured in the **Standard Log**, it is excluded from the dynamic column set because it is presented as the first column by default.

My Dashboard

My Dashboard  enables you to edit your dashboard elements, access the details of the dashboard, print your dashboard, access the history of changes made in the dashboard, and finally access additional dashboards for the shell, if available.

You can access the **My Dashboard** link from the upper-right corner of the shell landing page. The **My Dashboard** link has a series of submenu options, based on your settings, as explained below:

My Dashboard

Enables you to go back to the default dashboard.

Details

To open the **Details** window and:

- View the shell details such as Shell Name, Shell Number, and the following tabs:
 - General
 - Currency
 - Images

- Options
- Links
- Calendar
- Custom Print Template
- Gateway Integration
- Primavera Cloud Integration
- Edit the information about the dashboard.

Edit Dashboard

To open the **My Dashboard** window and:

- Select from a list of available dashboard tabs.
- Select what type of information can be displayed on the dashboard.

The **My Dashboard** window has the following toolbar options:

-  **Create**
-  **Edit Tab**
-  **Filters**
-  **Delete Tab**
-  **Add Block**
 - **Custom:** Opens the **New Custom Block** window to enable you to add a new custom block.
 - **Standard:** Opens the **New Custom Block** window to enable you to add a new standard block.
 - **Portlet:** Opens the **New Portlet Block** window to enable you to add a new portlet. You can use this option to display an external Uniform Resource Locator (URL), such as a web cam, a frequently visited website, or Analytics application.

Note

When you specify a URL, the source (the targeted URL) must support the use of an inline frame (iFrame). If the source website does not support iFrame for security reasons, Unifier cannot render or display the site within the portlet block. Instead, the system displays a blank or white page. To work around this issue, you must view the URL in a standard web browser instead of from within Unifier.

- **Drill Down:** Opens the **New Drilldown Block** window to enable you to enter elements details in the Shell Dashboard blocks to drill into layers of data contained in the Shell.

Note

If a **Drill Down** block has Cost Sheet columns that are based on a formula, the data is not displayed.

- **Analytics:** Opens the **New Analytics Block** window to enable you enter details needed for analytics.

For more information on the preceding options, see About Shell Dashboards.

The **Get Parameters** option enables you to get workspace-specific information. This information will be available for any filter mapping in URLs used in the Analytics dashboard. When you select **Get Parameters**, Unifier extracts the parameters from the URL and adds the extracted parameters to the **URL Parameter Mapping**. You can then map those to appropriate fields from the Shell Attribute Form.

Print

To print the contents of the dashboard.

Audit Log

To open the **Audit Log** and review the history of changes made on the dashboard. Use the **Print** option to print or export the contents of the log.

View Forms

The permissions that have been set in the **View Forms** tab determine the form that users see when they open the shell. In the View Forms tab, permissions can be granted to groups to view additional forms designed in uDesigner rather than the standard Shell Attribute Form.

Opening the shell properties, from the landing page (Admin mode)

A user or group in the shell who has restriction to access the View forms (the user or group is not included in the viewers list in the View Forms setup of shell) will see the View form in read-only mode, when the form is accessed by way of the shell details from the shell landing page. In addition:

- This type of user or group will not see any other tabs within the **Details** page.
- This restriction does not apply to a user or group (including the administrator) who has **Modify** permission to the company-sponsored or partner-sponsored shell.

A user or group (including the administrator) who has Modify permission to the company-sponsored or partner-sponsored shell and has been added as a viewer to any of the View forms can see the Action form and all the tabs in the edit mode.

Opening the shell properties, from the landing page (User mode)

When a user or group opens a shell instance in User mode, the system opens the landing page of the shell. A shell member who has permission to a View form that has been defined for a shell can see the View form when the member opens the shell properties from the shell landing page.

Note

A user or group (including the administrator) who has Modify permission can access the shell properties in edit mode and see all the tabs even if the user or group (including the administrator) is added as a restricted user for the View Forms tab.

Minimizing the Shell Dashboard

Select the minimization icon to minimize the Shell Dashboard. You can minimize the Shell Dashboard blocks individually.

Expanding the Shell Dashboard

Select the expansion icon to expand the Shell Dashboard or to fill the width of the Shell Dashboard. You can expand the Shell Dashboard blocks individually.

Printing the Shell Dashboard

Select **My Dashboard** , and select **Print** to print a Shell Dashboard. You can print the Shell Dashboard blocks individually. For each block, only the information that is visible in the tab (that is, information that is visible in the block without maximizing it) will be printed out.

The print functionality has been optimized for A4 paper size. When you select **Print**, the blocks will be re-sized proportionality to print all the information which is visible on-screen to the user. For Standard blocks, where the display type is table or grid, the columns will be re-sized automatically in print to display more information. Users can also re-size the columns within the block to optimize it for Print.

Background graphics and scroll bars within the block are controlled by your browser properties.

Navigating Through Shell Block Drilldown

Select the left-arrow icon to navigate up the Drilldown in a Shell Dashboard block.

Setting Filters on a Shell Dashboard

Select **Filters** in the upper-left corner of the Shell Dashboard.

If there are filters defined, they will be listed, and enable you to filter the Shell Dashboard data by criteria defined in the **Dashboard Filters** window accessible through the **Edit** option.

To set filters on a Shell Dashboard block:

1. Select **Filters**. The Filters window opens.
2. Enter the filter criteria.
3. Select **OK**.
The data view in the block changes to reflect the filtering.
4. You can turn off the filter by selecting the red X associated with the displayed filter criteria.
The data view for the block returns to the default, unfiltered view.

Using Drill Down

You can select activated elements in Shell Dashboard blocks to drill into layers of data contained in the Shell.

Note

- The drill-down functionality is supported for charts only. Drill Down is not available for grids or tables, and Drill Down stops when a grid or table is encountered.
- If a **Drill Down** block has Cost Sheet columns that are based on a formula, the data will not be displayed.
- Any dashboard based on active task information or data view based on active tasks cannot be drilled down to the actual record.

To drill-down into Shell Dashboard block data:

1. Select a data representation in the data block.
For example, you can drill down into the next configured level of data for a Shell called Terminal Expansion by double-clicking that section of the chart.
2. View the next level of data. In this example, after you double-click Terminal Expansion, the next level of data is displayed.
3. To the original data view, select the left arrow icon.

Analytics

Unifier dashboard portlet enables you to pass parameters to Analytics so that the same analysis from Oracle Analytics Server can render in each project dashboard correctly and without the need to create individual dashboards within Oracle Analytics Server.

Setting the parameters in the URL fields (**Source Details** block of the **New Analytics Block** window) creates analytics type dashboards that can be rendered within the system.

Scrolling Vertical Y-axis in Shell Dashboard Graph

If there are enough records represented, you can scroll up and down the vertical y-axis of a graph using a scroll bar.

Configuring a Shell Dashboard (My Dashboard)

All shells have a dashboard that the end-user can configure if they have **Setup** permission.

The dashboard is the user's personal dashboard, with their personally configured view of shell data. In **User** mode, you can use the **Edit Dashboard** option to configure your dashboard window; however, for each user, the dashboard is often configured by the Administrator. Users can select this type of dashboard to view from the View Dashboard drop-down list on each shell. This dashboard is recommended if the user wants a personalized dashboard to view data that they specifically need to see regarding the shell.

To configure a shell dashboard (My Dashboard):

1. From the shell landing page, select **My Dashboard** () , and then select **Edit Dashboard** to open the **Edit Dashboard** window.
There are two sections to this window: **Tab Setup** and **Source Details**. Under **Tab Setup**, the default first tab already has a name and layout that you can modify.

2. To change the tab, select the tab name. Change the tab name, and select a layout for the tab. You can experiment with layouts to see which one works with the information that you want to display.
3. Select the **Show** checkbox to show the tab in the dashboard.
Under **Source Details**, you can add standard or custom blocks. Double-click to select a default standard block and modify it as needed.

To add a standard block:

4. Select **Add**, and then select **Standard**. You can add any number of blocks, but the dashboard displays the blocks based on the tab layout you select. See the first table below.
5. Select **OK** to save your changes and exit the Edit Standard Block window.
6. To add a custom block, from the toolbar, select **Add**, and then select **Custom**. See the second table below.
7. Select **OK** to save your changes and exit the Edit Custom Block window.
8. To add a portlet, from the toolbar, select **Add**, select **Portlet**, and enter the portlet name and the URL or IP address.
This allows you to add content to your dashboard from a URL address. For example, you could use this portlet to specify a webcam site to monitor activities via a live camera. You can add as many portlets as needed.

Note

When you specify a URL, the source (the targeted URL) must support the use of an inline frame (iFrame). If the source website does not support iFrame for security reasons, Unifier cannot render or display the site within the portlet block. Instead, the system displays a blank or white page. To work around this issue, you must view the URL in a standard web browser instead of from within Unifier.

9. You can define a block that allows users to drill down into the displayed data.

Note

You must add drilldown blocks if you want to use filtering on your dashboard blocks.

10. After you define the drilldown, you can also add filters.
11. To remove a block, select **Remove**.
12. To reposition a block, select **Move Up** or **Move Down**.
13. Select another tab name to modify the tabs and sources for that tab. Repeat these steps for each tab until you have configured the entire dashboard to meet your needs.
14. Select **Apply** to save your configuration, and then select **OK** to close the window.

Use the following table for Standard blocks.

In this field	Do this
Source Name	Enter a source name.

In this field	Do this
Data Type	- Select a data type. The data types are: - Business Process: general business process information - Document Management: total documents - Active Task Information: Active task metrics - Users: Metrics by Company - Image: shell image - Items Requiring Your Attention: items such as tasks and messages - Details: Shell details, such as shell number and name - Links: Links configured for the shell <specific business processes> : details on selected business processes, such as record status and tasks
Report On	Select what to report on.
Block Title	Add a title for this block.
Display Type	Select the chart type.
Show Result	Choose Actual Value or Percent of Total.
Show Total	Select this checkbox to display the total.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select this checkbox to use the comma as a 1000 separator.
Negative Number Format	Select the format for negative numbers.
Currency Format	Choose None, Shell Currency, or Base Currency.

Use the following table for Custom blocks.

This item	Does this
Data Cube	Select the shell Data Cube definition to use. Data Cubes are queries that can be defined and reused to create charts on your dashboard. Your company administrator defines the Data Cubes. If the Data Cube is based on the Date Picker, which indicates the date and time that the relevant data was updated, the dashboard adjusts this information based on your date/time format preference and time zone. If the Data Cube is based on the Date Only picker, the dashboard displays only the date and adjusts it based on your date format preference.
Show data from	Enables you to select the shells to use as data sources. You can choose: - Current Shell Only - Subshells Only - Current Shell and Sub-shells
Block Title	Add a title for this block.
Display Type	Select the chart type.
Source Grouped By	Select how the source is grouped.
Output Type	Choose either Record Count or Summary Value.
Report On	Select what to report on.
Show Result	Choose Actual Value or Percent of Total.

This item	Does this
Show Total	Select this checkbox to display the total.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select this checkbox to use the comma as a 1000 separator.
Negative Number Format	Select the format for negative numbers.
Currency Format	Choose None, Shell Currency, or Base Currency.

Add a Drill Down Block to My Dashboard

You can add a **Drill Down** block that allows you to access greater levels of data detail.

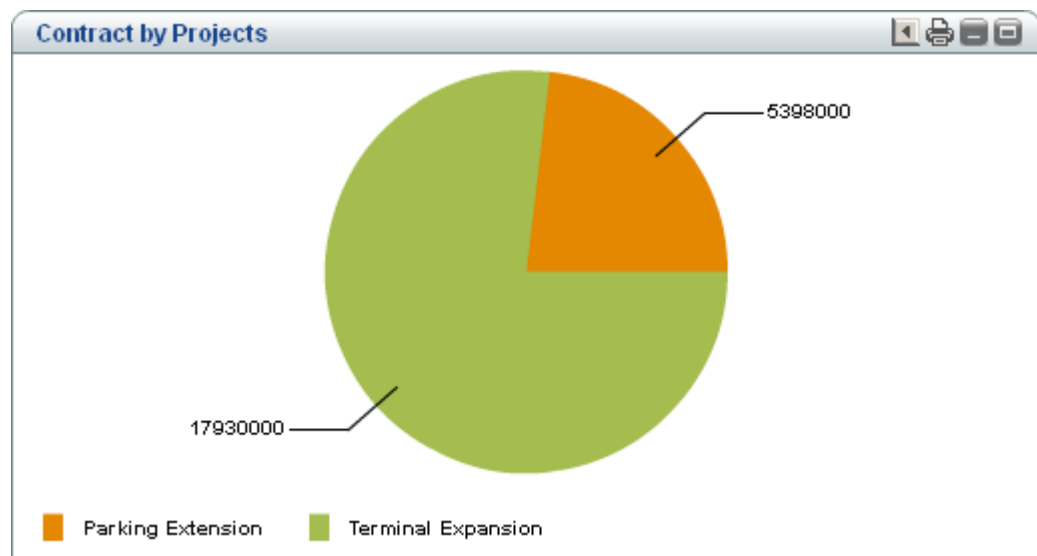
Note

If a **Drill Down** block has Cost Sheet columns that are based on a formula, the data will not be displayed.

Example

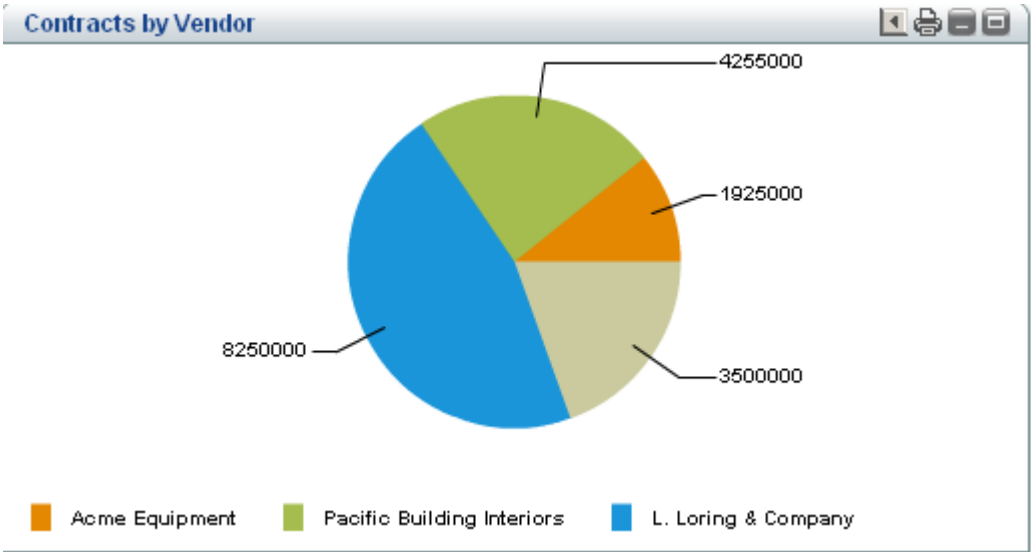
The pie chart below shows data for the following two projects (Contract by Projects):

- Parking Extension
- Terminal Expansion



If you double-click the pie chart for the Terminal Expansion project, the amount associated vendors pie chart will display (greater levels of data detail), as shown (Contract by Vendor):

- Acme Equipment
- Pacific Building Interiors
- L. Loring & Company



Note

If you want to use filters on your dashboard blocks, you must first define a **Drill Down** block.

To add a drilldown block to your shell dashboard:

1. On the Edit Dashboard window, select **Add**, and then select **Drilldown**. The Edit Drilldown Block window opens. Drilldown functionality is supported for charts only, and is not available for grids or tables. Drilldown will stop when a grid or table is encountered. See the first table below.
2. Select **Add** to add Drilldown Details. The Edit Drilldown Details window opens. See the second table below.
3. When complete, select **OK**, and select **OK** to exit the Edit Dashboard window.

This item	Does this
Data Cube	Select the Data Cube definition to use. Data Cubes are queries that can be defined and reused to create charts on your dashboard. Your company administrator defines the Data Cubes. If the Data Cube is based on the Date Picker, which indicates the date and time that the relevant data was updated, the dashboard adjusts this information based on your date/time format preference and time zone. If the Data Cube is based on the Date Only picker, the dashboard displays only the date and adjusts it based on your date format preference.
Block Title	Add a title for this block.
Block Filter Elements	Group By elements from the Data Cube. This determines which columns from the Data Cube definition will be used to group data for filtering.

In this field:	Do this:
Title	Enter a title for the drilldown.
Show Data From	Select the shells to use as data sources.
Display Type	Select the type of display, for example, a bar chart.
Source Grouped By	Select the columns from the Data Cube definition that will be used to group data.
Output Type	Select Record Count or Summary Value.
Report On	Select the columns from the Data Cube to be defined as Summary.
Summary Type	Select the summary type.
Show Result	Select the type of result, for example, Actual Value.
Show Total	Select to show the totals for the data.
Decimal Places	Select the number of decimal places.
Use 1000 Separator (,)	Select to use a comma (,) as a separator.
Negative Number Format	Specify the format for negative numbers.
Currency Format	Select the currency format.

Additional Information

If a Drill Down dashboard (Table or Grid) is set to show data from *current shell* and you create a report of your records, the report will contain all the pertinent records as hyperlinks, which can take you to the details of that record.

If a Drill Down dashboard (Table or Grid) is set to show data from *sub-shells* and you create a report of your records, the report will contain all the pertinent records without any hyperlinks, by design.

Add Filtering to the Drilldown Block

You can add filtering on a drilldown block in your shell dashboard. You must first define the filter at the block level, and then specify that it appear on the dashboard for use.

To add filtering on a drilldown block in your shell dashboard:

1. To define the drilldown at the block level, click **Select** next to Block Filter Elements on the Edit Drilldown Block window.
2. Select the data elements from the Data Cube that you want to use as filters.
3. Select **OK** to exit the Edit Drilldown Block window.
4. On the Edit Dashboard window, select **Filters** to add filters at the dashboard level. The Configure Filters window opens.
5. Select **Add**. The Add Filter window opens.
6. Enter the filter name.
7. Select the filter you want to use on the dashboard block.
8. Select **OK**, and then select **OK** to exit the Configure Filters window.

Optimizing Shell Dashboard Performance

You can sometimes improve shell dashboard display performance by following a few guidelines. Shell Dashboard performance can depend on how many dashboard blocks are defined and the volume of data retrieved by the dashboard query.

Here are some tips to improve shell dashboard performance:

- Reduce the number of dashboard blocks, if possible.
- Define conditions for SQL filtering to return less data.
- Do not check **Show Total** when you configure dashboard blocks.
- Do not select **Percent** for **Show Result**.

View Dashboards

Users with Configure User Dashboard permissions can configure and maintain a shell dashboard. This user-configured dashboard is listed as My Dashboard in the View Dashboard drop-down list. This menu can also list shell dashboards that were configured by the Administrator.

For example, the Administrator can create separate shell instance dashboards to serve various business groups that are using shells in a single instance. The Administrator might create the following shell instance dashboards for a shell instance called Building 100:

This dashboard	To serve this business group
Operations Dashboard	Operations and Management groups
Technical Services Dashboard	Technical Support and Services group
Lease Management Dashboard	Vice President of Leasing Services and that person's reports

With permissions, you can view the dashboards provided by the Administrator, but you cannot modify them.

To view dashboards:

1. Navigate to a shell.
2. Select a dashboard from the **View Dashboard** drop-down list. Any dashboard that you have configured for yourself is called My Dashboard.
3. You can select dashboard in the **View Dashboard** drop-down list to which you have **View** permission. The last dashboard that you view will display the next time you sign in to the system.

Working with Shells

A shell allows users to collaborate on and coordinate the execution of a project.

Note

User access and permission levels for all functions are controlled by the company administrator. Contact your company administrator if you have questions regarding access.

Auto-Create Projects or Shells

The system provides a type of business process that will create projects/shells from the upper form of the BP or from BP line items. The data necessary to create projects/shells is provided by this BP. In addition to creating a new shell, this type of business process can also be designed so that you can choose the managers and employees who should be automatically assigned to the shell when it is created.

Note

For auto-creation to occur correctly, be sure you understand the hierarchy of the shells in your company. This is important for placing the shell in the correct position in the hierarchy as well as choosing the correct template with which to build it. If the template is not the correct one, the creation will not succeed.

You can use the **Project/Shell Creation** business process to create projects/shells from the project/shell templates set up for this purpose. Templates provide projects/shells with the name, number, location, and status for each new project/shell, as well as any included images and phase definitions. If the template includes links, the new shell landing page will display these links. If designed and configured to do so, the template will automatically assign a manager and employees to the project/shell.

Working with Planning Items

If a Planning Item Picker has been included on this business process, you can link new projects/shells with planning items. Instead of linking a planning item to a project in the Planning Manager, this BP will automatically create the link when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project.

To auto-create a single project/shell:

Auto-creation of a single shell or a project, only requires that you complete an upper form.

1. Navigate to the level (such as Company Workspace or a shell) where the auto-creation business process resides.
2. In the Navigator, select the business process then on the right pane, select **New**. The business process opens.
3. Enter a name and number for the new shell and select an administrator for the shell.
4. Specify where the shell should reside in the hierarchy by choosing a shell location as follows:
 - a. Click **Select**. A shell picker opens, showing the tabs of all the current anchor shells.
 - b. On the shell picker, select the anchor shell under which the new shell should reside. If the new shell should reside under a sub-shell, double-click the sub-shell.

The sub-shell may contain other sub-shells. You can navigate to them by selecting the **View** drop-down list (located in right corner), and selecting the sub-shell from the list.
5. Specify the template that should be used to create the shell as follows:
 - a. Click **Select**. The Shell Template picker opens, showing a list of the templates that have been designed for the shell type this BP will create.

- b. Select the template, and click **Select**. The name of the template appears in the field on the form.

Note

If the selected source cost sheet has duplicate columns that the system cannot auto-correct, an alert is displayed to the user to take further action.

6. Specify the shell status, such as **Active** or **On-Hold**.
When the shell is created, this is the status it will be assigned.
7. Specify the BP status.
When this status reaches this BP's designated "terminal" status, it will automatically create the new project/shell and assign it the status you specified in step 6.

Note

If you do not specify a status, the system will assign a status of **Inactive** to the shell and you will have to manually change the status to make the shell active.

8. Complete any other fields that have been included on the form.
9. Select **Finish Editing**.

When the business process reaches its terminal status, it will create a new project/shell using the template you specified on the BP form, and the new project/shell should appear in the hierarchy in its appropriate place.

To auto-create multiple projects/shells:

To auto-create multiple projects/shells, you need to fill out an upper form, and create line items for each project/shell you want to create. The system will use each line item to create a separate project/shell.

1. Navigate to the level (such as Company Workspace or a shell) where the auto-creation business process resides.
2. In the Navigator, select the business process and on the right pane, select **New**. The business process opens.
3. Complete the upper form fields, including the status of the business process.
4. Select **Add** at the bottom of the window, and choose **Detail Line Item**. A Line Item window opens.
5. Enter a name, number, and description for the new shell and select an administrator for the shell.
6. Specify where the shell should reside in the hierarchy by choosing a shell location as follows:
 - a. Click **Select**. A shell picker opens, showing the tabs of all the current anchor shells. For example:
 - b. On the shell picker, select the anchor shell under which the new shell should reside. If the new shell should reside under a sub-shell, double-click the sub-shell.

The sub-shell may contain other sub-shells. You can navigate to them by selecting **View** and selecting the sub-shell from the list.

7. Specify the template that should be used to create the shell as follows:
 - a. Click **Select**. The Shell Template picker opens, showing a list of the templates that have been designed for the shell type this BP will create.
 - b. Select the template, and click **Select**. The name of the template appears in the field on the form.
8. Specify the shell status, such as **Active** or **On-Hold**.
When the shell is created, this is the status it will be assigned.

Note

If you give the shell a status of **Inactive**, child shells cannot be created.

9. Specify the line item status.
This is the status at which the line item should be to create a new project/shell. When the line item reaches the status you specify here, the application will automatically create the new project/shell and assign it the status you specified in step 8.
10. Complete any other fields that have been included on the form.
11. Select **Finish Editing**.

When the business process reaches its terminal status, and the line item status reaches the status you specified in step 9, the application will create a new project/shell using the template you specified, and the new project/shell should appear in the hierarchy in its appropriate place.

Working with Shell Features

The Navigator displays the shell-related features that you have permission to access in **User** mode. Depending on the modules that your company has set up and your access permissions, the following shell functions are typically available.

Note

Company administrators can configure the Navigator to better suit business needs, such as creating nodes to store business process records.

Function	Description
Alerts	You can access the following information regarding the alerts: • Alert Title • Current Value • Trigger Value • Status You can create customized alerts for a condition or event.

Function	Description
Tasks	Not available for View-Only and Inactive shells. Lists: • Current business process tasks that have been assigned to you. • Business process tasks that you have been copied on. You can use the View option to display tasks: • Received in last 7 days • Received in last 30 days • Group by Business Process • Group by Origin • Late Tasks You can use the View option to create views (Create New View) and manage existing views (Manage Views).
Drafts	Not available for View-Only and Inactive shells. Lists: • Draft copies that you have saved. You can access the following information regarding the drafts: • Attachments • Business Process • Record Number • Title • Last Saved The right pane of the Drafts log has the following tabs, which provide additional information about a selected draft item: • Record Details • Workflow Progress • Attachments

Function	Description
Mailbox	Has the following sub-nodes: • Drafts • Inbox • Notifications (Notifications are available for View-Only shells, but you cannot add general comments.) • Sent Items • Deleted Items • Project Mailbox – Inbox – Unpublished Attachments – Custom folder Mailbox has two functions: 1) An internal email feature that allows shell team members to communicate with each other and maintain a record of the communications. For shells with View-Only status, Mailbox is available for viewing, but you cannot send, edit or delete messages. 2) The repository that collects external emails related to the shell. These emails can come from shell users or from external users who do not use Unifier. From the Mailbox, users can forward the emails to appropriate members, flag them for review, and reply to them. In addition, these external emails can be linked to business process records.
Information	Lists the shell directory (Directory) and general BP information.
Gates	Displays phase and gates information and enables manual or automatic advancement of phases.
Configurable Modules	Lists the configurable modules that have been created to work with your shells.
Cost Manager	Lists shell-level cost manager functions such as: • Cash Flow • Cost Sheet • Earned Value • Funding • Schedule of Values
Document Manager	Allows for collaboration, revision control, or markups of: • Documents: Shell documents • Unpublished Documents
Resource Manager	If you have access to the feature, which was deprecated starting with version 23.10, allows read-only access to resources and roles.
Schedule Manager	If you have access to the feature, which was deprecated starting with version 23.5, allows access to existing Schedule Sheets.
Logs	Allows access to the shell business processes.
Reports	Allows access to user-defined reports.

Auditing Shell Changes

The shell audit log lists the actions that have been taken on a specific shell. The Audit Log captures changes that have been made to the fields on the Shell Attribute Form.

Note

When a user does not have the option to view the Audit Log because **Hide Audit Log** is enabled, it prevents the user from viewing the Audit Log for a project/shell, which ensures that the user is not aware of what changes are made to the shell, when they are made, and by whom. For more information, see [Edit User or Group Permissions Using Access Control](#) and [Editing User Permissions at Company, Shell, and Project Levels](#) and see [Setting Permissions to Create or Modify Shell Instances](#).

To view an Audit Log:

From the **View** menu of the shell record, select **Audit Log**. The Audit Log opens, listing each event that was taken on the Shell Attribute Form. The date and time stamp of each event reflect users' current time zone as set in their User Preferences.

To view audit details:

In the Audit Log, double-click a listed event to view the audit record detail, which details the action taken. The details also include the user's current time zone for reference.

To print a business process Audit Log:

1. On the Audit Log, select **Print** . A PDF file is created.
2. Do one of the following:
 - Select **Open** to open the file in Adobe Acrobat Reader. From the Reader window, you can view, save, or print the file.
 - Select **Save**. In the Save As window, navigate to the location in which you want to save the PDF file. Open the file in Adobe Acrobat Reader, select **File**, and then select **Print**.

Add an Image

If an Image picker is available to your shell, forms display the image name and a box to hold the uploaded image. An Image picker can be added to all forms, except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and Document Manager. See [Adding Images](#).

Managing Shell Alerts

You can create customized alerts for a specific condition or event. For example, you could set up an alert that sends you an email letting if a fund amount on the funding sheet has reached a certain level.

Alerts are created by creating an Alert-type user-defined report.

To create an alert:

1. Create an Alert report in user-defined reports.
2. Open a shell, and select **Alerts** in the Navigator. The Alerts log opens.
3. Select **New**. The Alert window opens.

4. Complete the window as described in the table below.
5. Select **OK** to close the Alert window.

In this field	Do this
Report Name	Click Select. The list of user-defined alert reports for the shell opens. Select a report from the list, and select Open. You can also select Find and enter search criteria to locate a specific report. Note Reports that are already used to create an alert are shown with a check mark. You can create more than one alert for each report.
Description	Populated automatically with the report description, if one exists.
Alert Title	Appears as the title of the alert in the log and on the alert sent. By default, the field shows the report name, but you can change the name.
Frequency	How often you want the alert to be sent when the trigger condition is met: Never: Alerts are not sent. Hourly: Sent every hour, at about 20 minutes past the hour. Daily: Daily at about 2:20 a.m. Weekly: Sent on Mondays at about 2:20 a.m. Monthly: Sent on the first day of the month, about 2:20 a.m. Times might vary. The times are based on the Unifier server used, which operate on the Pacific Time Zone. Note If you choose a frequency other than never, you must specify a method and message.
Method	Select one or both of the methods to be notified of the alert. For email, the address in your user profile is used).
Message	Type a message that you want included in the alert. Remember that this is an alert that only you see, so enter as much or as little detail as you need.

To edit alerts:

1. Open a shell, and select **Alerts** in the Navigator. The Alerts log opens.
2. Select an alert, and select **Open**. The Alert window opens.

3. Make changes to the alert as needed, and select **OK**.

To delete an alert:

1. Open a shell, and select **Alerts** in the Navigator.
The Alerts log opens.
2. Select an alert, and select **Delete**.

Working with Mailbox (Shells)

The *shell Mailbox* is an internal email feature that allows *shell team members* to communicate with each other and maintain a record of the communications. The *shell Mailbox* interface is similar to common email programs such as Microsoft Outlook. The *shell Mailbox* supports file attachments and emails can be sent between *shell team members* and to external email addresses.

Note

To use any of the mailbox features, you must have permissions.

A copy of every mailbox communication is saved in a central folder controlled by the *shell administrator*. These communications become part of the *shell* record. The *shell* or company administrators must grant users permission to access the *shell Mailbox* folder.

Note

The external email cannot be sent directly to the *shell Mailbox*. For more information, see [Project Mailbox \(External Emails\)](#).

Depending on permissions, users can view all messages or only those in which they participated (sent or received). Permission can also be granted to deleted items in the *shell Mailbox* folder. Once deleted, the communications are not recoverable.

Note

Users who sent or received the deleted message may still retain copies of these messages in their own **Inbox** or **Sent** folder.

Accessing Mailbox (Shells)

The *shell Mailbox* feature is *shell-specific*, and the full functionality is accessed at the *shell* level.

Note

A cross-shell listing of your **Inbox** can also be accessed in the **Mailbox** node on the **Home**  tab. For more information, see [Home Tab \(Home Workspace\)](#).

To access Mailbox from a shell:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Mailbox**. The **Mailbox** node expands and displays the following sub-nodes:
 - **Drafts**: Displays Mailbox messages that you have drafted but not yet sent.
 - **Inbox**: Displays messages sent to you.
 - **Notifications**: Displays your notifications.
 - **Sent Items**: Displays messages that you have sent.
 - **Project Mailbox**: Stores copies of all Mailbox messages sent between *shell team members*. Access to this folder must be granted through permission settings.
 - **Deleted Items**: Displays items that you have deleted from one of the other folders.

To forward an email:

1. Open the email, and select **Forward**. A forward email window opens.
2. Select **To** (and optionally, **Cc**). The User/Group Picker opens.
3. Select the user(s) to whom you want to forward the message, and select **Add**. The names appear in the Selected Users area at the bottom of the window.
4. (Optional) To forward the email to external users, enter their addresses in the **External Cc** field, separated by semi-colons (;).
5. Select **OK**. The system forwards the email to the persons you specified.

To delete an email:

On the Mailbox log, select the email, and select **Delete**. To delete multiple emails, hold down the **Ctrl** key on your keyboard and select the emails.

To print an email:

On the Mailbox log, select the email, and select **Print**  from the toolbar. To print multiple emails, hold down the **Ctrl** key on your keyboard and select the emails.

To find a specific email:

1. On the Mailbox log, select **Find**. The system opens a Find window at the top of the log.
2. Enter the search criteria.
 - To search for an email from a specific person, enter the person's email address in the **From** field.
 - To search for an email with a specific subject line, enter the subject line in the **Subjectcontaining** field.

You can enter partial addresses or words in any of these fields. The system will display all the emails that match the partial information you entered.

To search for an email with some specific content in the message, enter that content in the **Messagecontaining** field.

3. Select **Search** (or press **Enter**).

The application will display the emails that match the criteria you entered. It will also identify the criteria by which you have searched the list in the "**Current View: filtered by**" line above the list.

Drafts

The **Drafts** sub-node of the **Mailbox** (shell) enables you to:

- Access the draft emails.
- Create draft emails.
- View, flag, print, or delete draft emails.

Inbox

The **Inbox** sub-node of the **Mailbox** (shell) enables you to:

- Access the emails.
- Create emails.
- View, flag, reply, forward, print, or delete emails.

When an email is selected from the **Inbox** log, the contents of the email are displayed on the right along with the possible actions.

You can use the *gear menu* () to perform the following actions: **Open**, **Flag** (All available options are displayed), **Clear Flag**, and **Delete** for each record.

The following toolbar options are displayed on the **Inbox** log:

Toolbar Option	Description
 New	To create a message.
Actions	The following options are displayed: • Flag: To flag one or more emails. All available sub-options are displayed. • Clear Flag: To clear the flags. This option is context-sensitive. • Print: To print the log. • Delete: Delete one or more emails.
View	To customize the view according to the following criteria: • Received in last 7 days • Saved in last 30 days • Group by From • All Items • Create New View • Manage Views This submenu will also contain all views that you have created.
Edit View 	To edit the view (columns) of the Inbox log.
Refresh 	To refresh the log screen.
Print 	To print the selected record.
Search 	To open the Search window and enter search parameters. You can search for items that are not currently displayed in the log.

Toolbar Option	Description
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

Notifications

The **Notifications** sub-node of the **Mailbox** (shell) enables you to see all your notifications. You can navigate to the **Notifications** sub-node from the left Navigator or by selecting the **Notifications** tile on the **Home** sub-node.

The following toolbar options are displayed on the **Notifications** page.

Toolbar Option	Description
Actions	The following options are displayed: • Print: Choose from one of the following options: HTML, PDF, or Custom. • Delete: Delete one or more notifications.
View	To customize the view according to the following criteria: • Received in last 7 days • Saved in last 30 days • Group by Business Process • Group by Origin • All Notifications • Create New View • Manage Views This submenu will also contain all views that you have created.
Refresh 	To refresh the log screen.
Print 	To print the contents of the log, export to CSV, or export to Excel.
Edit View 	To edit the view of the log. You can edit the view of the following elements on your log: • Columns • Filters • Group By • Sort By If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name. You can select Clear to clear your selections.
Search 	To open the Search window and enter search parameters. You can search for drafts that are not currently displayed in the log.
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

The following columns and icons are displayed in the log:

- Attachments  (Displays if the upper form of the record has any attachments)

- Business Process (Name of the BP)
- Record Number (Record number of the notification)
- Title (Title of the notification)
- Origin (The source name where the notification was created)
- Received (The date the notification was received)

When a notification record is selected from the log, the **Record Details**, **Attachments**, and **Workflow** tabs are displayed on the right pane.

From the **Notifications** log, you can use the *gear menu* () to perform the following actions: **Open**, **Print - HTML**, **Print- PDF**, and **Print - Custom**.

For information about translating Email Notifications, see [User Interface \(UI\) Content and Internationalization](#).

Sent Items

The **Sent Items** sub-node of the **Mailbox** (shell) enables you to see the messages that you have sent.

The following toolbar options are displayed on the **Sent Items** page.

Toolbar Option	Description
New	Enables you to create a new email.
Actions	The following options are displayed: • Flag • Clear Flag • Print: Choose from one of the following options: HTML, PDF, or Custom. • Delete: Delete one or more notifications.
View	To customize the view according to the following criteria: • Sent in last 7 days • Sent in last 30 days • Group by Origin • All items • Create New View • Manage Views This submenu will also contain all views that you have created.
Refresh 	To refresh the log screen.
Print 	To print the contents of the log.
Edit View 	To edit the view of the log. You can edit the view of the following elements on your log: • Columns • Filters • Group By • Sort By If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name. You can select Clear to clear your selections.

Toolbar Option	Description
Search 	To open the Search window and enter search parameters. You can search for drafts that are not currently displayed in the log.
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

 Note

For **Project Mailbox** replies, the **From** field of the external email received does not indicate the corresponding project mailbox email address; however, after you reply, the **To** field will contain the project mailbox email address, auto-populated.

The following columns and icons are displayed in the log:

- Flags
- Attachment icon (Displays if the upper form of the record has any attachments)
- Origin (The source name)
- To (The recipient)
- Subject (The subject of the message)
- Sent (the date of that the message was sent)
- Received (The date the item was received)

When a sent record is selected from the log, the **Record Details**, **Attachments**, and **Workflow** tabs are displayed on the right pane.

From the **Sent Items** log, you can use the *gear menu* () to perform the following actions: **Open**, **Print - HTML**, **Print- PDF**, and **Print - Custom**.

Project Mailbox (External Emails)

The **Project Mailbox** supports additional email addresses such that emails can be directly sent to those email addresses. The **Project Mailbox** sub-node contains the external emails. The external emails are important communications that need to be included in shells. Such emails can come from *shell members* or from external users who do not use Unifier.

These email communications (and any attachments) are collected in a central repository for the *shell*, called the **Inbox** so that *shell* users can use them in managing and documenting the *shell*. After such emails reside in the **Inbox**, the *shell* users can view them, forward them to appropriate members, flag them for review, and reply to them. In addition, the *shell* users can link these emails to business process records.

If you have set your preferences to receive notification whenever a new message is received, the system automatically sends you an email even if the project is set to On-Hold or Inactive, which ensures that communication is maintained. The email includes information such as the name of the sender, the subject, and the date. If the project is set to Active or View Only, the email includes a link to the Project Mailbox in Unifier. If the project is set to Inactive or On-Hold, the email indicates that the project is not accessible. For information on enabling or disabling this email preference, see [Selecting Email Subscription Options](#).

To access the inbox:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Mailbox**, select **Project Mailbox**, and then select **Inbox**.

 Note

The external emails that have been blind carbon-copied (Bcc'd) are not collected by the **Inbox**.

The additional emails can also be included in folders along with the default project **Inbox**. You can move emails between the **Inbox** and the additional folders.

 Note

For **Project Mailbox** replies, the **From** field of the external email received does not indicate the corresponding project mailbox email address; however, after you reply, the **To** field will contain the project mailbox email address, auto-populated.

On the **Inbox** log, double-click the email. The system opens the email. If there are attachments, the email will display an **Attachments (n)** link. To open an attachment, select the link, and double-click the attachment on the list that appears.

To flag an email for follow-up:

1. Open the email.
2. Select **Flag for Follow-Up**. The system opens the Flag for Follow-Up window.
3. In the **Flag to** field, choose the action you want for this email, such as "call," or "for your information."
4. Select **Reply** to reply to the email, or select **Forward** to forward the email on to someone.

When the recipient opens the message, the specific flag remark is shown across the top of the message.

 Note

To remove the flag, select **Flag for Follow up**, and then select **Clear Flag**.

To move an email from one folder to another folder:

1. Go to **Inbox**, and select the email that you want to move.
2. From the **Actions** list, select **Move**. This opens the Move window.
Alternatively, you can select the *gear menu* () and select **Move**.
3. In the Move window, select the folder that you want to move the email into, and select **OK**.

The **Move** option is available only if more than one folder (including the **Inbox**) exists below the **Project Mailbox** parent sub-node, and you have the permission to view the **Inbox**.

To create additional folder (Project Mailbox):

See [Creating Additional Folders in the Project Mailbox](#).

To delete a *folder*:

1. Go to **Inbox**, and select **Create/Manage Folders** .
2. In the **Folders** dialog box, select the row of the folder that you want to delete.
3. Select **Delete Folder** , and select **Done**.

To reply to an email:

1. Open the email, and select **Reply**.
The system displays the addressee's email address in the **External To** field. You can add additional external addresses in this field, separated by semi-colons (;).
2. (Optional) To add email addresses to the Cc line, select **Cc**. The User/Group Picker opens.
 - a. Select the user(s) you want to add to the message, and select **Add**. The names appear in the Selected Users area at the bottom of the window.
 - b. Select **OK**.
3. (Optional) To attach a file to the reply, select **Attach**, and choose **My Computer** or **Unifier Folder**.
 - a. In the window that opens, select the file you want to attach, or browse your computer's directories to locate the file to attach.
 - b. Select **OK**. The application attaches the file to your reply.
4. Enter your reply, and select **Send**.

The system sends the email to the persons you specified.

Note

After you reply to an external email, the communication will become part of Unifier mailbox system. To see your reply, or any other communication regarding this email after this point, look for it in the **Inbox** sub-node of the Navigator. Any reply you made to the email will appear in the **Sent Items** sub-node of the **Mailbox** node. Any email you forwarded will also appear in the **Sent Items** sub-node of the **Mailbox** node.

Any reply you made to the email will appear in the **Sent Items** sub-node of the **Mailbox** node.

Any email you forwarded will also appear in the **Sent Items** sub-node of the **Mailbox** node.

You can filter the available email items based on the folders that are present in **Project Mailbox**.

To link emails:

1. From the **Project Mailbox**, in the **Linked Mail** tab, select **Add**.
2. In the **Add from Project Mailbox** window, select **Mailbox Folder**.
3. Select from the list of the folders present for the **Project Mailbox**. The default value is **Inbox**. The list under **Available Items** block displays the emails in the folder that you had selected from the **Mailbox Folder** drop-down list.

Deleted Items

The **Deleted Items** sub-node of the **Mailbox** node (shell) enables you to see the items that you have deleted from one of the other folders. Once deleted, the communications are not recoverable.

Note

Users who sent or received the deleted message may still retain copies of these messages in their own Inbox or Sent folder.

The following columns and icons are displayed in the log:

- Flags 
- Attachments  (Displays if the upper form of the record has any attachments)
- From (The sender's information)
- Subject (The subject of the message)
- Received (The date the item was received)

When a deleted record is selected from the log, the **Record Details**, **Attachments**, and **Workflow** tabs are displayed on the right pane.

From the **Deleted Items** log, you can use the *gear menu* () to perform the following actions: **Open**, **Print - HTML**, **Print- PDF**, and **Print - Custom**.

The following toolbar options are displayed on the **Deleted Items** page.

Toolbar Option	Description
New	To create a new email.
Actions	The following options are displayed: • Flag • Clear Flag • Print: Choose from one of the following options: HTML, PDF, or Custom. • Delete: Delete one or more notifications.
View	To customize the view according to the following criteria: • All items • Create New View • Manage Views This submenu will also contain all views that you have created.
Refresh 	To refresh the log screen.
Print 	To print the contents of the log.

Toolbar Option	Description
Edit View 	To edit the view of the log. You can edit the view of the following elements on your log: • Columns • Filters • Group By • Sort By If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name. You can select Clear to clear your selections.
Search 	To open the Search window and enter search parameters. You can search for drafts that are not currently displayed in the log.
Find on Page 	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

Accessing Mailbox Messages Across Shells (Home Tab)

To view all your Mailbox messages across shells:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Mailbox**, and then select **Inbox**. All messages sent between *shell team members* (messages residing in all shell Mailbox Inbox and Sent folders) are listed.
3. To open a listed message, select it from the list, and select **Open**.

To search for a specific Mailbox message across shells:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Mailbox**, and then select **Inbox**. All messages residing in the **Inbox** and **Sent** sub-nodes of all shell **Mailbox** nodes are listed.
3. Select **Find**.
4. Enter search criteria in the **Subject Containing** or **Message Containing** fields in the upper portion of the log.
5. Select **Search**. The log lists the messages meeting the search criteria entered.

Send and Receive Mailbox Messages

The mailbox functionality is similar to common email programs. You can attach files, format text, flag the message, compose and save a draft of your response without sending it, and preview your message in a browser. You can correspond with your shell team members and send messages to external email addresses through the Mailbox.

To send a Mailbox message:

1. Access the Mailbox, and select any of the sub-nodes.
2. Select **New**. A message window opens.

3. Choose the recipients of the Mailbox message by doing any of the following:
 - Select **To**. The User/Group picker opens displaying shell users. Select the recipients from the Select Users list, and select **Add**. Select **OK** to close the picker.
 - To send a copy to another recipient, select **Cc**, and then choose the recipients from the User/Group picker.
 - To send a copy to an external email address, enter the address in the **External Cc** field. Separate multiple addresses with a semicolon (;). The recipient sees Unifier Notification in the From field and cannot reply directly.
 - To send a blind copy (bcc), select **View**, and select **Bcc Fields**. The Bcc button and External Bcc field become available on the Mailbox message window.
4. Type the subject of the message in the **Subject** field.
5. Type the body of the message in the text field.

 Note

To attach files, format the text, flag a message for follow up, compose and save a draft of your message without sending it, or preview your message in a browser, see the following procedures.

6. Select **Send** to send the message.

To view or respond to a Mailbox message:

1. Double-click a message to view it.
2. To respond to the message, do one of the following:
 - To send a reply to the sender, select **Reply**.
 - To send a reply to the sender and other recipients of the original message, select **Reply to All**.
 - To forward the message to another recipient, select **Forward**. File attachments remain with forwarded messages.

 Note

To display the Vendor name, the Vendor BP record in the upper form must contain data in the **uuu_contact_first_name** and **uuu_contact_last_name** elements.

3. Type your response, and select **Send**.

To attach files to a Mailbox message:

1. Open the Mailbox message.
2. Select **Attach**, and choose one of the following:
 - To attach the file from your local system, select **My Computer**. The procedure is the same as uploading files to the Document Manager.
 - To attach documents from the Document Manager, select **Unifier Folder**. The window opens, displaying the shell documents files and folders. Select the files and folders to attach, and select **OK**.

Note

When attaching a folder, the contents of the folder are attached in a flat list. You cannot attach documents with duplicate file names.

3. Select **OK** to add the file, and then select **OK** to close the General Comments window.

You can also send a copy of a completed BP form directly while working in the BP form. The system automatically creates a PDF copy to send via the Mailbox.

To flag a Mailbox message for follow-up:

1. Open an existing message, or create a new message.
If you want to flag a message that you are replying to or forwarding, open the message, and select **Reply**, **Reply All**, or **Forward**.
2. Select **Flag for Follow-Up**.
3. In the **Flag to** field of the **Flag for Follow-Up** window, choose an action, such as "call" or "for your information."
4. Select **OK**.
The flag text appears at the top of the message. A red flag symbol also displays next to the message in the log. (You may need to refresh the log to see the flag.)
5. If this is an existing message that you are flagging for yourself, you can simply close the message. If you are sending the message to someone else, add the recipients and send the message.

To remove a Mailbox flag:

Select **Flag for Follow up**, and then select **Clear Flag**.

To format Mailbox text:

1. Open the Mailbox message.
2. Select the text that you want to format in the body of the message.
3. From the **Formatting** toolbar, choose the formatting to apply to the text.

To spell check Mailbox message text:

1. When you are finished composing a Mailbox message, select **Spelling** on the toolbar of the message.
The body text of the message is checked.
2. Make spelling corrections as necessary, and select **OK**.

To print a Mailbox message:

1. Open the Mailbox message.
2. From the toolbar, select **Print** .

To print several Mailbox messages from the Mailbox log:

1. Navigate to a Mailbox log.
2. Select several Mailbox records that you want to print.
3. Select **Print**.

To search for a Mailbox message:

1. In the left Navigator, select a Mailbox folder.

2. From the toolbar, select **Find**.
The Find box expands above the log.
3. Do any of the following:
 - To search by the recipient (To field), click **Select**, and choose the user from the User/Group picker.
 - To search by subject, enter a word or phrase in the **Subject Containing** field. You can use partial entries.
 - To search by message content, enter a word or phrase in **Message Containing**.
 - Further refine the search by choosing **Read** or **Unread**.
4. Select **Search**.
The messages meeting your search criteria are listed in the log.

To delete Mailbox messages:

1. Do one of the following:
 - From a Mailbox log, select the message, and select **Delete**.
 - From within a Mailbox message, select **Delete** on the toolbar.

The message is moved to the shell Deleted Items folder.
2. To permanently delete a message, select it from the Deleted Items folder, select **Delete**, and then select **Yes** to confirm.

Link Mailbox Messages to Business Process Records

You can link *shell* mailbox messages directly to BP records using the Linked Mailbox link at the bottom of the BP form.

Note

This option is available only in BPs that have been set up to accommodate linked Mailbox messages. Attaching messages or viewing attachments depends on your Mailbox permissions.

To view a list of BP records to which a message is linked:

1. Open the message.
2. If the message is linked to a BP record, the upper portion of the message displays the following:
This message and any future replies are linked to records. Show list
3. Select **Show list** to view the list of BP records to which the message is linked.

To view the linked business process records associated with an email:

You can view the linked business process (BP) records associated with an email, and when you reply to the email directly from the linked business process record, or from the Inbox, your reply will be part of the business process record.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Mailbox**, and then select **Inbox** to open the **Inbox** log.
3. Select an item from the list to see the preview, on the right pane of the page **Inbox** log.

When available, on the right pane, under the "To" field, a message appears which states, "This mail and any future replies are linked to business process records." Select the link in the message to open the business process records log (**Linked Business Process Records** log). Similar to a business process record log, the **Linked Business Process Records** log lists the records (Business Processes) and displays details (**Record Details** tab) for each record, on the right pane.

You can select **Reply**, enter your message, and select **Send**. When you take this action, you can go to the BP log of your shell (**Logs** node), select the BP record to open it, and from the right pane select the **Linked Mail** tab to see your reply, or other replies, related to the BP record, listed.

Example

You have an Action Item BP record with a linked email. When you open the email, the email contains a link to the Action Item BP record.

Creating Additional Folders in the Project Mailbox

To create additional folders (Project Mailbox):

1. Go to **Inbox**, and select **Create/Manage Folders** . If you have the **View** permission for **Inbox** sub-node, you can view all folders under the **Inbox** sub-node.
2. In the **Folders** dialog box, select **Create Folder**  to open a row on the grid.
3. Double-click each cell of this new row, under **Name** and **Email Address Code** columns, and enter the values.
4. When finished, select **Done**.
5. Ensure that you see the new folder under the **Project Mailbox** parent sub-node, below the **Inbox** sub-node.

You can create folders only if you have the permission to "Create/Manage" folders for the **Project Mailbox**.

You can change the order of the folders by moving the rows in the **Folders** window.

The order of folders arrangement below the **Inbox**, in the left Navigator, is according to the order of rows in the **Folders** window. The **Inbox** is always the top folder and directly below the **Project Mailbox** parent sub-node.

Your newly created folder appears in the existing list of folders below the **Inbox** node. The positioning of the folders below the **Inbox** node is according to the ordering of rows in **Folders** window. You can drag and drop rows in the **Folders** window to reorder the folder position in the left Navigator.

Note

You can reorder more than one folder at the same time.

In addition, you can double-click into any cell of the grid of an existing folder, in the **Folders** window, and edit the folder properties (**Name**, **Email Address Code**).

The email address is calculated by the system according to the **Project Email Pattern** that is defined in **Unifier Configurator**. As a result:

- When the **Project Email Pattern**, in the **Unifier Configurator**, is configured to be the *prefix*, the email address of the folder will be: <Email Address Code for the folder>-<project email id>. For example, if the **Email Address Code** of a folder is "construction," and the project email id is "bostonGenHospital-slc05kuz@internal-mail.oracle.com," then the folder email address will be "construction-bostonGenHospital-slc05kuz@internal-mail.oracle.com."
- When the **Project Email Pattern** is configured to be the *suffix*, the email address of the folder will be such that the **Email Address Code** gets appended to the very end of the project email id. For example, if the **Email Address Code** of a folder is "construction," and the project email id is "slc05kuz+bostonGenHospital@internal-mail.oracle.com," the folder email address will be "slc05kuz+bostonGenHospital+construction@internal-mail.oracle.com."

When a user sends an email to the email address of a folder, that email automatically lands inside the correct folder. Additionally, if the user specifies an incorrect value of the **Email Address Code** and the rest of the project/shell email address is correct, that email automatically shows up in the **Inbox** sub-node under the **Project Mailbox** parent sub-node.

The toolbar options for the new folder (below the Email Address) are the same as the toolbar options for the **Inbox** sub-node. The actions **Move** and **Folder** are visible based on permissions.

The options **View**, **Edit View**, **Refresh**, **Search**, and **Find on Page** are the same as in **Inbox** sub-node.

The log layout listing the emails for a new folder is the same as for **Inbox** sub-node. Similar to **Inbox** sub-node, the user has the ability to move one or more emails from one folder to another using the right-click option and selecting **Move** or using the **Move** option.

By default, **Inbox** is available under **Project Mailbox**. You have ability to select **Inbox**, move it to the "Available Modules and Business Processes" section and then move it back below any other parent node in the "Selected Modules and Business Processes" section.

When you move **Inbox** to the right section, the parent node **Project Mailbox** will disappear.

When you move **Inbox** from the right to the left section below a new parent node, the system inserts the **Project Mailbox** node as the direct parent node of **Inbox**. For example, if the original hierarchy was Folder A which includes Project Mailbox which includes Inbox, and the user moves the Inbox to the right section, and then moves it back to the left section below Folder B, the system displays the hierarchy as Folder B which includes Project Mailbox which includes Inbox. In other words, the Inbox always resides below the Project Mailbox.

You can send an email to Project/Shell users giving them information about the additional email address of a Project/Shell. The email is a system-generated message with the following elements:

Header: Email Address(es) for <project/shell number> - <project/shell name>

Subject: Email Address(es) for <project/shell number> - <project/shell name>

Body (text): This email is to inform you that a Unifier Mailbox has been setup for <project/shell number in bold chars> - <project/shell name in bold chars>

You must use the following general format for the email address: <project/shell email id>

If the Project/Shell contains additional folders, the following text between two forward slashes //:

//To send messages, including file attachments to specific folders, use the following email address(es):

```

1. <Folder 1 name>: <Folder 1 email address>
2. <Folder 2 name>: <Folder 2 email address>
3. <Folder 3 name>: <Folder 3 email address>
... <and so on>
//

```

Note

If there are no additional folders, this text must not be contained in the email body.

The email is a system-generated message.

All emails received, or existing emails in the **Project Mailbox**, are in the **Inbox** node below the **Project Mailbox** parent sub-node.

Unpublished Attachments (Mailbox)

Whenever an email gets logged in any of the Project Mailbox folders, the system adds all the attachments of the mail to the **Unpublished Attachments** log. The log lists the attachments for each email. At the bottom of the **Unpublished Attachments** log, the total number of files are displayed, similar to the **Unpublished Documents** in Document Manager (DM).

Note

If you delete an email from the Project Mailbox, the email attachments, in the Unpublished Attachments, will be deleted automatically.

To access the Unpublished Attachments log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Mailbox**, select **Project Mailbox**, and then select **Unpublished Attachments** to open the **Unpublished Attachments** log.

The **Unpublished Attachments** log contains the following toolbar options:

Option	Description
Publish	When you select an attachment (or multiple attachments) and select Publish , the Publish - Select destination folder window opens which enables you to
Download 	Enables you to download and save the file. If you select more than one file, the system zips the files so you can download all of them.
Tile View  or List View 	Lets you toggle between Tile and List views.

Option	Description
View	You have the following options: • All Attachments: Enables you to see all attachments in all email folders. • Group By Folder: Enables you to select a particular email folder and see only the files of the selected folder.
Search 	Enables you to search for an unpublished attachment from the list based on subject of the email, the email name, or the attachment name.
Find on Page 	Enables you to find a particular unpublished attachment.

The *gear menu* () that appears for every item enables you to conduct the following for each attachment:

- **Open**
- **Open in AutoVue**
- **Publish**
- **Download**

The **Unpublished Attachments** log contains the following columns:

- **File Name** (the name of the attachment and extension)
- **Folder** (the folder that contains the email)
- **Subject** (the email subject)
- **Received** (the date that the email was received)

When you select an item from the list, the system opens a pane on the right that displays the content of the email.

Depending on your permissions:

If you select the **Inbox** sub-node (located under **Project Mailbox**), you can access the attachments to emails. The attachments can also be accessed in the **Unpublished Attachments** sub-node log. Use the **View** option to sort out the emails and their attachments. In the **Unpublished Attachments** sub-node log shows the folder (**Folder** column) in which the email is placed in. Use the **View** option and **Group By Folder** sub-option to arrange the emails in the **Folder** (column label) per folder (inbox folders). You can use the **Download** or **Open** options to download or open the attachment of an email.

In the **Unpublished Attachments** sub-node log, you can select an attachment and select **Publish** to publish the attachment in the Document Manager, in a folder.

Collaborating with Team Members

The system helps you to collaborate with your fellow team members through business processes.

View Shell Information

Shell information consists of the directory and the general information node. The Information node in the Navigator has two sub-nodes:

- General is a log of general information BP records.
- Directory is a list of shell team members

General records originate as single-record BPs—only one record exists per shell. The General log is useful for shell-specific information that only needs to be documented on a single form. You can use it to easily categorize and find big-picture shell information. An example is general shell data or descriptions.

To access shell information:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Information**, and then select **General**. The log displays the available records.
3. To open a record, double-click it, or select **Open** from the *gear menu* (⚙).

To view the shell directory:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Information**, and then select **Directory**. The Directory log opens, listing the shell team members and their contact information.

Contact Shell Team Members

You can view the contact information of team members, and send them email or Mailbox from within the system. If there are many team members, you can use the search function to find a particular member.

To find a shell team member:

1. Open the shell Directory, and select **Find**.
2. Choose which information to search by in the **Search By** selection list (for example, first name).
3. Enter search criteria in the **Search for** field (for example, enter all or part of the first name), and select **Search**.

To view a team member's user profile:

1. In the Directory, select the user from the list, and select **Open**. The View User Profile window opens.
2. In the **Contact Information** selection list at the top of the window, choose one of the following:
 - **Current shell name:** Displays contact information specific to the current shell, such as the onsite address or cell phone.
 - **Company Contact Information:** This is the member's company contact information.

To send an email using an external email program:

Do one of the following:

- In the Directory, select a team member's name, and select **Send email**.
- In the team member's User Profile window, select the email address.

An email dialog box using your default email program (for example, Microsoft Outlook) opens. The To: field is populated automatically with the member's email address. Email sent through your external email program is not saved as part of the Unifier shell record.

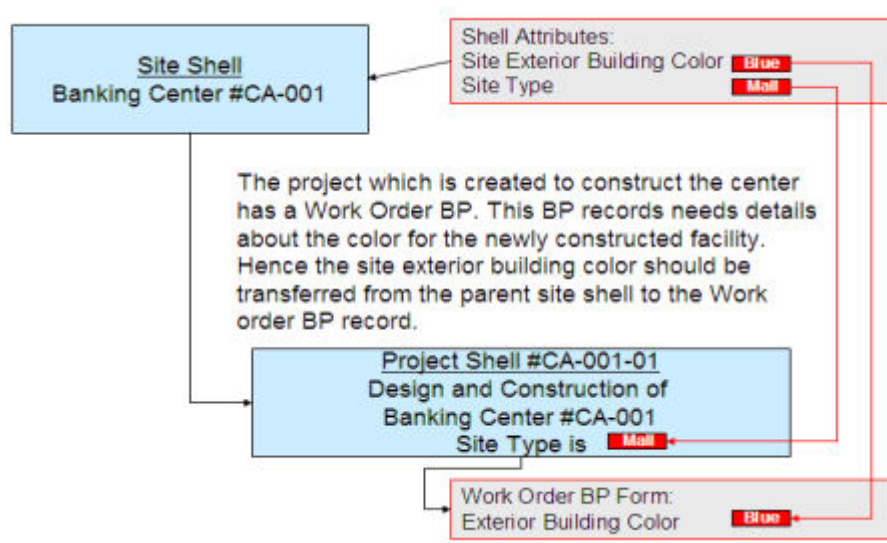
Auto-Population in Shells

Fields on a business process in a child shell can be set up in uDesigner to auto-populate from the attribute form of the current shell or any parent shell, or to auto-populate from the upper form of a single-record non-workflow business process under any parent shell. Also, a field on a Shell Attribute Form can be set up to auto-populate from the attribute form of any parent shell, or from the upper form of a single-record business process under any parent shell.

Note

If a Data Picker DE is excluded from the integration interface for a BP, changes to the source DE are not reflected in the line item as a result of a REST call. Conversely, if a Data Picker DE is included in the integration interface for a BP, changes to the source DE are reflected in the line item as a result of a REST call.

For example, a bank can have multiple banking centers. When a new banking center is commissioned, a project shell can be used to manage the construction details of the banking center. A Work Order business process, which is created under the project shell, contains details including physical characteristics from the Site shell. In this example, the physical characteristics includes the building color, which is auto-populated to the Work Order business process so that the building is painted the correct color.



Note

If a shell is moved to a new place in the shell hierarchy, fields that are auto-populated for that shell retain the values that were populated when the shell was initially created. Auto-population does not reoccur when a shell is moved in the shell hierarchy.

Reverse auto-population in shells

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be automatically updated when other values are modified in a BP form or Shell Attribute Form.

Note

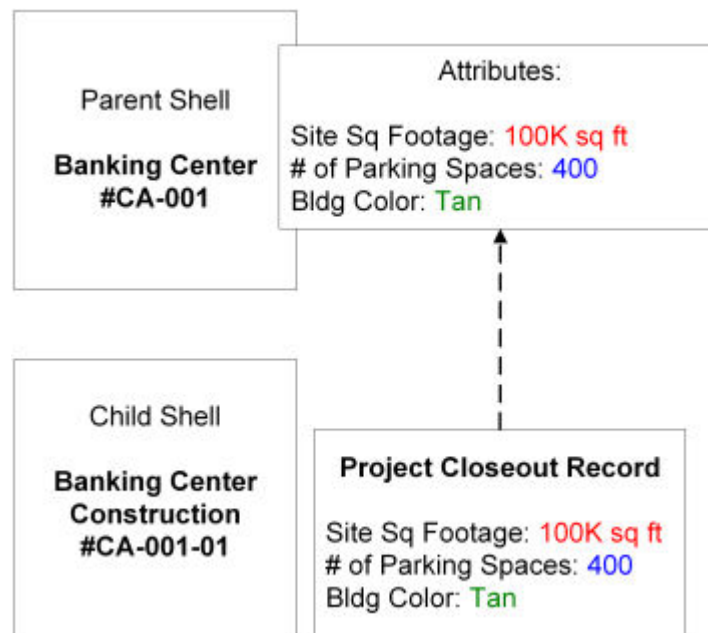
Reverse auto-population does not occur for shells with View-Only status.

Depending on the set up in uDesigner, reverse auto-population can occur in these instances:

- Changes to the data elements in a child Shell Attribute Form can result in changes to the attribute form of any parent shell in the shell hierarchy
- Changes to data elements in a BP detail form under a child shell can result in changes to the current Shell Attribute Form or any parent Shell Attribute Form in the shell hierarchy

For example, When a new banking center is commissioned then a shell instance is used to construct the banking center. The parent shell needs to be updated with data from the attribute forms of the child shell and from BPs within the child shell.

Also, data stored in a Code and Records-based Manager (such as a Parts Manager) may change based on company-level or project/shell-level BPs, and those changes need to reverse auto-populate back to the attribute form.



Financial Period in Shell

Depending on the financial period selected at the Shell level, when the user tries to create a scenario under Portfolio Manager, the user will only see the list of projects with the same financial period present in the respective Shell options.

If the user has selected a financial period at the Shell level, then the selected option overrides the financial period coming from Portfolio Manager by way of configuration.

The same selected financial period will also be used under Cash Flow curves, for the time scale of the financial period type.

The user is able to change the financial periods when there are no cashflows associated with that financial period.

Accordingly, when the Cash Flow is refreshed, it uses the new period structure.

If the user selects a period from the period picker in the Shell details window, the selected period will be used across Cash Flow curves (if time scale type is financial period) and Portfolio Manager.

Working with Multiple Document Manager Attribute Forms

Within the Shell Details, you can select which attributes forms to use for the Document Manager, for both folders and documents.

From the **Options** tab, you can define which attribute form (**Document Manager Attribute Form**) to use for the document/folder. After you define the form, the corresponding Document form value is displayed in the Document properties (**Document Manager Attribute Form Used**).

- By default, the attribute form (marked as system-defined in **Document Manager**) can be selected, and the corresponding Document Attribute Form is used to determine the DMS structure.
- Only the active DM configuration forms are available for selection.
- If you decide to change the attribute form for an existing shell, the system displays a message.

If you change the attribute forms that are being used (which results in user views within the **Document Manager** containing fields that are no longer in the attribute form), the system:

- Removes the fields from the view and
- Does not display the related field columns.
For Columns that are added in the user view due to change in attribute form, the information is retrieved, if it exists.

In case a previous active **Document Manager** configuration (in a shell) is marked as *inactive*, the DMS structure keeps that attribute form structure. When you open the shell details, the **Document Manager Attribute** is defaulted to system-defined attribute form because the previous configuration has been marked as inactive. The **Document Manager Attribute Form Used** will show the previous DM Attribute Form that is kept by the shell. If you select **OK**, the system displays a message, informing you of this change.

In case if a previous active **Document Manager** configuration (in a shell) is *deleted* because the associated Folder Attribute Form was deleted, the DMS structure is defaulted to the system-defined attribute form of a supported DMS structure for the shells. When you open the shell details, the **Document Manager Attribute** is defaulted to system-defined attribute form because the previous configuration has been deleted. The **Document Manager Attribute Form Used** will show the system defined DM Attribute Form that is kept by the shell. If you select **OK**, the system displays a message, informing you of this change.

Using Projects

Your project can have one of four statuses:

- **Active:** A live, in-progress project.
- **On-Hold:** The initial project status. On-Hold projects are listed on the projects log, but you cannot work with them.
- **View-Only:** View-Only projects can be viewed, printed, exported, and included in reports. You cannot modify any data in View-Only projects. This allows you to view past projects without allowing changes to these projects.
- **Inactive:** Used to suspend project usage. Inactive projects are visible to Administrators, but not to end users. Only System and Project Administrators (users with Modify Status rights) can reactivate the project.

Note

If automatic status update is enabled on a project, the status of the project can change from Active to an inactive status (On-Hold, View-Only, Inactive). The change of status is set up by the Administrator, and is based on defined triggering conditions. For example, if a project is close to exceeding its funding, it might make sense to put it On-Hold while funding matters are discussed. Your project administrator must manually change the status back to Active when you are ready to restart the project.

The Project Administrator will receive email notification when the status of a project changes. The change of project status could occur due to a manual change, bulk update, through Web Services or a CSV file, or through automatic update.

Working with the Project Summary

The project summary provides a snapshot of the overall project. You can configure what information is displayed in your project summary. There are two available views of the project summary:

Summary - Standard View: The standard view of the project summary displays an overview of the project:

- Project name and number, project administrator, and the number of people on the project.
- Project schedule data, including schedule tracking information.
- Cost data relative to expenses incurred on the project to date from the project cost sheet. Total amounts are displayed and rounded to the nearest integer. "Invalid" displays for any entry that contains an invalid entry in a Cost Manager formula.
- Current tasks and their progress.
- Project-level business process records. Select a business process on the list to display the number of records that exist for that business process.
- From the **View By** selection list, choose **Status** (displays the total number of project records for each business process and the current status) or **Originating Company** (displays the total number of project records originated per company, listed by company short name; applicable if your partner companies can create business processes for the project).

Summary - User View: You can customize the project summary to display virtually any reportable project-related information in table or graphical format. The summary information is pulled from summary-type, user-defined reports or from preconfigured standard data-type reports.

You can drill down to the respective log by selecting a hyperlink from a summary report block.

To access the project summary:

1. Open a project, and select **Summary** in the Navigator.
2. Select **View**, and choose **Standard** to view the standard view or **User** to view the user-defined view.
3. Select a link to jump directly to the respective log.

To print a project summary:

1. Open a project, and select **Summary** in the Navigator. You can print both the user view and the standard view.
2. From the **File** menu, select **Print Preview**. The preview window of the summary opens.
3. Select **Print** in the upper-right corner of the window.

Configure Your Project Summary

To help you keep track of the information that is most useful to you, you can customize the information that is displayed in the Project Summary window. Each part of the summary page is called a block. The data shown in a block can be in table form, a bar graph, or a pie chart. The summary page displays blocks on the right or the left.

You can add, edit, view, or delete summary reports as described below. You can customize how the summary report data is arranged in the Project Summary window, including displaying it on the left or right column, arranging the order of the display, and displaying the information as a table, bar chart, or pie chart.

The data that is displayed in this view is generated from summary-type, user-defined reports. Each block represents one report.

Note

The system displays the **Tasks**, **Notifications**, and **Drafts** nodes, in the respective Company Workspace and Project/Shell, based on the deployment of your user mode navigators.

Available project-level standard reports

Name	Drill down to	Default
<BP Name> Count by Status	BP Log	
<BP Name>% by Status	BP Log	
<BP Name> Count by Company	BP Log	
<BP Name>% by Company	BP Log	
<BP Name> Count by User	BP Log	
<BP Name>% by Creator User	BP Log	
<BP Name> - Tasks by User	Project, and then select Tasks	
<BP Name> - Tasks All Users	Project, and then select Tasks	
Record Count per BP (for current user)	BP Log based on which BP link was selected	Yes

Name	Drill down to	Default
Record% per BP	BP Log based on which BP link was selected	
All Users (by company)	Project, select Project Information, and then select Project Directory	
Logged in Users (by company)	Project, select Project Information, and then select Project Directory	Yes
Current User Task Count	Project, and then select Tasks	Yes
All User Task Count	No drill down	
Total Documents	Drill down to Document Manager	Yes

To add reports to the user view:

1. Create summary-type reports that include the information that you want to display in the summary.
2. Open a project, and select **Summary** in the Navigator. The Summary window opens.
3. Select **View**, and choose **User**.
The initial reports included in the summary are displayed in table format. You have the option to modify how these reports display, remove them from the summary view, or add other summary reports.
4. From the **Edit** menu, choose one of the following:
 - **Left Column:** To add information to the left side of the window
 - **Right Column:** To add information to the right side of the window

The Left Column Blocks or Right Column Blocks window opens.
5. Do one of the following:
 - To add a user-defined summary report, select **Add Custom**. The Custom Summary Block window opens. Complete the window, and select **OK**.
 - To add a preconfigured, standard data-type report, select **Add Standard**. The Standard Summary Block window opens. Complete the window, and select **OK**.
6. Use the information in the first table below to complete the fields in the Add Custom window.
7. Use the information in the second table below to complete the fields in the Add Standard window.
8. Select **Close**. The Project Summary - User View window will update to include the new report.

In this field	Do this
Report Name	Click Select. The User-Defined Reports window opens, listing the available summary reports. Select a report from the list, and select Open. (If the list is long, you select Find and enter search criteria to help locate a specific report.) Note Reports that are already used in the summary page are shown with a check mark. You can use a report more than once. For example, you might want to include the same report in both table and pie chart formats.
Description	This is populated automatically with the report description, if one exists.
Block Title	This will appear over the data on the summary page. By default, the field will show the report name, but is editable.
Display Type	Choose to show the data as a bar chart, pie chart, or table format.
Show Result	Choose one of the following: • Actual Value: Shows the actual value of what is being reported (number of records for a particular BP type, and so on). • Percent distribution of total: Calculates the value as a percentage of the total (the percentage of total records to which a BP type corresponds, and so on).
Show Total	Select this checkbox if you want to display the total value of the data. This will vary, depending on what data is used in the report. For example, it may include the total number of records, total currency amount, and so on.
Report Name	This field will auto-populate with the selection from the Report On field.
Data Type	Choose a standard data type to add to the summary. Choices include: • Business Process • Document Management • Active Task Information • Users • List of project business processes
Report On	The selection list is dependent on what is chosen from Data Type. Choose from the selection list. The Report Name field will auto-populate with the standard report.
Block Title	This will appear over the data on the summary page. By default, the field will show the report name, but is editable.

In this field	Do this
Display Type	Choose to show the data as a bar chart, pie chart, or table format.
Show Result	Choose one of the following: • Actual Value: Shows the actual value of what is being reported (number of records for a particular BP type, and so on). • Percent distribution of total: Calculates the value as a percentage of the total (the percentage of total records to which a BP type corresponds, and so on).
Show Total	Select this checkbox if you want to display the total value of the data. This will vary, depending on what data is used in the report. For example, it may include the total number of records, total currency amount, and so on.

To move or delete blocks on the Project Summary - User View:

1. Open the Project Summary - User View.
2. From the Edit menu, choose one of the following:
 - **Left Column:** To add information to the left side of the window
 - **Right Column:** To add information to the right side of the window

The Blocks window opens. Blocks are listed in the order in which they appear on the page.

3. To move a block, select it, and select **Move Up** or **Move Down**.
4. To delete a block, select it, and select **Delete**.

To change the display type, title, or other block property:

1. Select the block, and select **Open**.
2. Make changes as necessary, and select **OK**.

Managing Project Alerts

You can create customized alerts to alert you to a condition or event in the system that you specify. For example, you might set up an alert that will send you an email or Mailbox message letting you know that a fund amount on the funding sheet has reached a certain level.

Alerts are created by creating an alert-type user-defined report. For more information about user-defined report data types, see [User-Defined Reports](#).

To create an alert:

1. Create an alert report in user-defined reports.
2. Open a project, and select **Alerts** on the Navigator. The Alerts log opens.
3. Select **New**. The Alert window opens. Complete the window as described in the table below.
4. Select **OK** to close the Alert window.

In this field:	Do this:
Report Name	Click Select. The list of user-defined alert reports for the project opens. Select a report from the list, and select Open. (If the list is long, select Find and enter search criteria to help locate a specific report.) Note Reports that are already used to create an alert are shown with a check mark. You can create more than one alert for each report.
Description	This is populated automatically with the report description, if one exists.
Alert Title	This will appear as the title of the alert in the log and on the alert sent. By default, the field will show the report name, but this is editable.
Frequency	Choose the frequency that you want the alert to be sent when the trigger condition is met: Never: Alerts will not be sent. Hourly: Alerts will be sent every hour, at about 20 minutes past the hour. Daily: Alerts will be sent daily at about 2:20 a.m. Weekly: Alerts will be sent on Mondays at about 2:20 a.m. Monthly: Alerts will be sent on the first day of the month, about 2:20 a.m. Times may vary somewhat. The times noted above refer to server time, that is, the time according to the Unifier server being used. (Servers operate on Pacific Time Zone.) Note If you choose any frequency other than Never, you must specify a method and message.
Method	You may select one or both of the following methods to be notified of the alert: Email (the email on your user profile will be used) or Mailbox.
Message	Type a message that you want to be included in the alert. Remember that this is an alert that only you will see, so enter as much or as little detail as you need.

To edit alerts:

1. Open a project, and select **Alerts** on the Navigator.
2. In the **Alerts** log, select an alert, and select **Open**.

3. In the Alert window, make changes to the alert as needed, and select **OK**.

To delete an alert:

1. Open a project, and select **Alerts** on the Navigator.
2. In the **Alerts** log, select an alert, and select **Delete**.

Working with Mailbox (Projects)

The *project Mailbox* is an internal email feature that allows *project team members* to communicate with each other and maintain a record of the communications. The *project Mailbox* interface is similar in functionality to common email programs such as Microsoft Outlook. The *project Mailbox* supports file attachments and emails can be sent between *project team members* and to external email addresses.

Note

The external email cannot be sent directly to the *project Mailbox*.

A copy of every mailbox communication is saved in a central folder controlled by the *project administrator*. These communications become part of the *project* record. The *project* or company administrators must grant users permission to access the *project Mailbox* folder.

Depending on permissions, users can view all messages or only those in which they participated (sent or received). Permission can also be granted to delete items in the *project Mailbox* folder. Once deleted, the communications are not recoverable.

Note

Users who sent or received the deleted message may still retain copies of these messages in their own **Inbox** or **Sent** folder.

You can link the messages in the *project Mailbox* to specific business process records.

View and Find Mailbox Messages

The Mailbox feature is project specific, and the full functionality is accessed at the project level. A cross-project listing of your Inbox and Sent items can also be accessed in the Mailbox node directly under Home.

To access project Mailbox:

1. Go to the project tab, and switch to **User** mode.
2. Select **Mailbox** in the left Navigator. The Mailbox folders expand:
 - **Drafts:** Displays Mailbox messages that you have drafted but not yet sent.
 - **Inbox:** Displays messages sent to you.
 - **Sent Items:** Displays messages that you have sent.
 - **Deleted Items:** Displays items that you have deleted from one of the other folders.

- **Project Mailbox** : Stores copies of all Mailbox messages sent between project team members. Access to this folder must be granted through permission settings.

To view all your Mailbox messages across projects:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Mailbox**.
All messages residing in all project Mailbox Inbox and Sent folders are listed.
3. To open a listed message, select it from the list, and select **Open**. You will be directed to the Project Mailbox Inbox or Sent folder containing the message, and the message will open.

To search for a specific Mailbox message across projects:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Mailbox**.
All messages residing in all project Mailbox Inbox and Sent folders are listed.
3. Select **Find**.
4. Enter search criteria in the Subject Containing or Message Containing fields in the upper portion of the log.
5. Select **Search**. The log will list the messages meeting the search criteria entered.

Send and Receive Mailbox Messages

Mailbox functionality is similar to common email programs. In Mailbox, you can attach files, format text, flag the message, compose and save a draft of your response without sending it, and preview your message in a browser.

You can correspond with your project team members through Mailbox, and send Mailbox to external email addresses. External email users cannot send email directly to Mailbox.

Note

Mailbox messages can be linked directly to related business process records. For information about linking mailbox messages to a record, refer to the *Unifier Business Processes User Guide*.

To send a Mailbox message:

1. Go to the project tab, and switch to **User** mode.
2. Select any Mailbox folder.
3. Select **New**. A message window opens.
4. Choose the recipients of the Mailbox message by doing any of the following:
 - Select **To** to select the primary recipients. The User/Group picker opens displaying project users. Select recipients from the **Select Users** list, and select **Add**. Select **OK** to close the picker.
 - To send a copy to another recipient, select **Cc**, and choose the recipients from the User/Group picker.

- To send a copy to an external email address, enter the address in the External Cc field. Separate multiple external addresses with a semicolon (;). The recipient will see Unifier Notification in the From field, and will not be able to reply directly.
 - To send a blind copy (Bcc), select **View**, and select **Bcc Fields**. The Bcc button and External Bcc field become available on the Mailbox message window.
5. Type the subject of the message in the Subject field.
 6. Type the body of the message in the text field.
 7. Select **Send** to send the message.

To view or respond to a Mailbox message

1. Access Mailbox by doing one of the following:
 - Open a project, and switch to **User** mode. In the left Navigator, select the **Mailbox Inbox** folder. The Inbox lists all messages that have been sent to you. Unread messages are shown in bold text.
 - Go to the Home  tab. In the left Navigator, select **Mailbox**. All sent and received Mailbox messages across projects are listed. Unread messages are in bold text.
2. Double-click a message to view it. The message opens.
3. To respond to the message, do one of the following:
 - To send a reply to the sender, select **Reply**.
 - To send a reply to the sender and other recipients of the original message, select **Reply to All**.
 - To forward the message to another recipient, select **Forward**.

 Note

Any file attachments will remain on forwarded messages.

4. Type your response, and select **Send**.

 Note

For Project Mailbox Replies, the **From** field of the external email received does not indicate the corresponding project mailbox email address; however, after you reply, the **To** field will contain the project mailbox email address, auto-populated.

To attach files to a Mailbox message:

1. Open the Mailbox message.
2. Select **Attach**, and choose one of the following:
 - **My Computer:** Attaches the file from your local system. The procedure is the same as for uploading files to the Document Manager.
 - **Unifier Folder:** Attaches documents from the Document Manager. The window opens, displaying the Project Documents files and folders. Select the files and folders to attach, and select **OK**.

Note

Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

3. Select **OK** to add the file, and select **OK** to close the General Comments window.

Note

The system allows you to embed only one image (file size must be equal or less than 1MB) in a single email. Use the attachment feature to send an image with a file size greater than 1MB, or to send multiple images.

To flag a Mailbox message for follow-up:

1. Open an existing message, or create a new message.

If you want to flag a message that you are replying to or forwarding, open the message, and select **Reply**, **Reply All** or **Forward**.

1. Select **Flag for Follow-Up**. The Flag for Follow-Up window opens.
2. In the **Flag to** field, choose an action, such as "call," or "for your information."
3. Select **OK**. The flag text appears at the top of the message. A red flag symbol will also display next to the message in the log. (You may need to refresh the log to see the flag.)
4. If this is an existing message that you are flagging for yourself, you can simply close the message. If you are sending the message to someone else, add the recipients and send the message.

To remove a Mailbox flag:

Select **Flag for Follow up**, and then select **Clear Flag**.

To format Mailbox text:

1. Open the Mailbox message.
2. Select the text you want to format within the body of the message.
3. On the Formatting toolbar, choose the formatting to apply to the text.

To spell check Mailbox text:

1. When you are finished composing a Mailbox message, select **Spelling** on the toolbar of the message. The body text of the message is checked.
2. Make spelling corrections as necessary, and select **OK**.

To print a Mailbox message:

1. Open the Mailbox message.
2. From the toolbar, select **Print** .

To print several Mailbox messages from the Mailbox log:

1. Navigate to a Mailbox log.
2. Select the Mailbox records that you want to print.
3. Select **Print**.

To search for a Mailbox message

1. In the Navigator, select one of the Mailbox folders.
2. From the toolbar, select **Find**. The Find box expands above the log.
3. Do any of the following:
 - To search by the recipient (To field), click **Select**, and choose the user from the User/Group picker.
 - To search by subject, enter a word or phrase in the **Subject Containing** field (partial entries are acceptable).
 - To search by message content, enter a word or phrase in **Message Containing**.
 - You can further refine the search by selecting the Items that are: drop-down list and choosing Read or Unread.
4. Select **Search**. The messages meeting your search criteria will be listed in the log.

To delete Mailbox messages:

1. Do one of the following:
 - From a Mailbox log, select the message, and select **Delete**.
 - From within a Mailbox message, select **Delete** on the toolbar.

The message is moved to the project's Deleted Items folder.

2. To permanently delete a message, select it from the Deleted Items folder, and select **Delete**. Select **Yes** to confirm that you are permanently deleting the message.

Note

When you delete a message from your account, a copy of the message remains in the central project record: the Project Mailbox folder. Messages deleted from the Project Mailbox folder are permanently deleted.

Link Mailbox Messages to Business Process Records

Mailbox messages can be linked directly to BP records through the Linked Mailbox link at the bottom of the BP form. For information about linking mailbox messages to a record, refer to the *Unifier Business Processes User Guide*.

Note

This option is available only in BPs that have been set up to accommodate linked Mailbox messages. The ability to attach messages or view attached messages depends on the user's Mailbox View permissions. Reply, reply all, and forward messages sent from a linked Mailbox will also be automatically linked to the BP.

To view the list of BP records to which a Mailbox message is linked:

1. Open the Mailbox message.
If the message is linked to a BP record, the upper portion of the message will display the following:

"This Mailbox and any future replies are linked to records. Show list" (where Show list is a hyperlink).

2. Select **Show list** to view the list of BP records to which the Mailbox is linked.

Additional Information about Using the Project Mailbox

External emails are important communications that need to be included in projects. Such emails can come from *project members* or from external users who do not use Unifier.

Note

To use any of the mailbox features, you must have permissions.

These email communications (and any attachments) are collected in a central repository for the *project*, called the **Inbox** (select **Mailbox**, select **Project Mailbox**, and then select **Inbox**) so that *project members* can use them in managing and documenting the *project*. After such emails reside in the **Inbox**, the *project users* can view them, forward them to appropriate members, flag them for review, and reply to them. In addition, the *project users* can link these emails to business process records.

Note

The external emails that have been blind carbon-copied (Bcc'd) are not collected by the **Inbox**.

If you have set your preferences to receive notification whenever a new message is received, the system automatically sends you an email even if the project is set to On-Hold or Inactive, which ensures that communication is maintained. The email includes information such as the name of the sender, the subject, and the date. If the project is set to Active or View Only, the email includes a link to the Project Mailbox in Unifier. If the project is set to Inactive or On-Hold, the email indicates that the project is not accessible. For information on enabling or disabling this email preference, see [Selecting Email Subscription Options](#).

To create additional folders:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Mailbox**, select **Project Mailbox**, and then select **Inbox** to open the Inbox log.
If you have the **View** permission for **Inbox** sub-node, you can view all folders under the **Inbox** sub-node.
3. From the toolbar, select **Create/Manage Folders**  to open the **Folders** dialog box.
You can see the folder icon only if you have the **Create/Manager Folders** permission.
4. Select **Create Folder**  to open a new row.
5. Under the **Name** column, double-click the empty cell, and enter a name for the new folder.
 - This field cannot be empty.
 - The maximum character length is 250.
 - You cannot use an existing name.
6. Under the **Email Address Code** column, double-click the empty cell, and enter a code.

- This field cannot be empty.
- The maximum character length is 120.
- You cannot use an existing code.

7. Select **Done**.

Your newly created folder appears in the existing list of folders below the **Inbox** node. The positioning of the folders below the **Inbox** node is according to the ordering of rows in **Folders** window. You can drag and drop rows in the **Folders** window to reorder the folder position in the left Navigator.

 Note

You can reorder more than one folder at the same time.

In addition, you can double-click into any cell of the grid of an existing folder, in the **Folders** window, and edit the folder properties (**Name**, **Email Address Code**).

The email address is calculated by the system according to the **Project Email Pattern** that is defined in **Unifier Configurator**. As a result:

- When the **Project Email Pattern**, in the **Unifier Configurator**, is configured to be the *prefix*, the email address of the folder will be: <Email Address Code for the folder>-<project email id>. For example, if the **Email Address Code** of a folder is "construction," and the project email id is "bostonGenHospital-slc05kuz@internal-mail.oracle.com," then the folder email address will be "construction-bostonGenHospital-slc05kuz@internal-mail.oracle.com."
- When the **Project Email Pattern** is configured to be the *suffix*, the email address of the folder will be such that the **Email Address Code** gets appended to the very end of the project email id. For example, if the **Email Address Code** of a folder is "construction," and the project email id is "slc05kuz+bostonGenHospital@internal-mail.oracle.com," the folder email address will be "slc05kuz+bostonGenHospital+construction@internal-mail.oracle.com."

When a user sends an email to the email address of a folder, that email automatically lands inside the correct folder. Additionally, if the user specifies an incorrect value of the **Email Address Code**, and the rest of the project/shell email address is correct, that email automatically shows up in the **Inbox** sub-node under the **Project Mailbox** parent sub-node.

The toolbar options for the new folder (below the Email Address) are the same as the toolbar options for the **Inbox** sub-node. The actions **Move** and **Folder** are visible based on permissions.

The options **View**, **Edit View**, **Refresh**, **Search**, and **Find on Page** are the same as in **Inbox** sub-node.

The log layout listing the emails for a new folder is the same as for **Inbox** sub-node. Similar to **Inbox** sub-node, the user has the ability to move one or more emails from one folder to another using the right-click option and then selecting **Move** or using the **Move** option.

By default, **Inbox** is available under **Project Mailbox**. You have ability to select **Inbox**, move it to the "Available Modules and Business Processes" section and then move it back below any other parent node in the "Selected Modules and Business Processes" section.

When you move **Inbox** to the right section, the parent node **Project Mailbox** will disappear.

When you move **Inbox** from the right to the left section below a new parent node, the system inserts the **Project Mailbox** node as the direct parent node of **Inbox**. For example, if the original hierarchy was Folder A, Project Mailbox, Inbox, and the user moves the Inbox to the right section, and then moves it back to the left section below Folder B, the system displays the hierarchy as Folder B, Project Mailbox, Inbox. In other words, the Inbox always resides below the Project Mailbox.

You can send an email to Project/Shell users giving them information about the additional email address of a Project/Shell. The email is a system-generated message with the following elements:

Header: Email Address(es) for <project/shell number> - <project/shell name>

Subject: Email Address(es) for <project/shell number> - <project/shell name>

Body (text): This email is to inform you that a Unifier Mailbox has been setup for <project/shell number in bold chars> - <project/shell name in bold chars>

You must use the following general format for the email address: <project/shell email id>

If the Project/Shell contains additional folders, the following text between two forward slashes //:

//To send messages, including file attachments to specific folders, use the following email address(es):

```
1. <Folder 1 name>: <Folder 1 email address>
2. <Folder 2 name>: <Folder 2 email address>
3. <Folder 3 name>: <Folder 3 email address>
... <and so on>
//
```

 Note

If there are no additional folders, this text must not be contained in the email body.

The email is a system-generated message.

All emails received, or existing emails in the **Project Mailbox**, are in the **Inbox** node below the **Project Mailbox** parent sub-node.

To open the *Project Mailbox*:

1. Open your *project*.
2. In the left Navigator, select **Mailbox**, select **Project Mailbox**, and then select **Inbox**. The right pane displays a log of the contents of the **Inbox**.

To open an email:

On the **Inbox** log, double-click the email. The system opens the email. If there are attachments, the email will display an **Attachments (n)** link. To open an attachment, select the link and double-click the attachment on the list that appears.

To flag an email for follow-up:

1. Open the email.

2. Select **Flag for Follow-Up**. The system opens the Flag for Follow-Up window.
3. In the **Flag to** field, choose the action you want for this email, such as "call," or "for your information."
4. Select **Reply** to reply to the email, or select **Forward** to forward the email on to someone. When the recipient opens the message, the specific flag remark is shown across the top of the message.

 Note

To remove the flag, select **Flag for Follow-Up**, and then select **Clear Flag**.

To move an email from one folder to another folder:

1. Go to **Inbox**, and select the email that you want to move.
2. Select **Actions**, and select **Move**. This opens the Move window.
Alternatively, you can select the *gear menu* () , and select **Move**.
3. In the Move window, select the folder that you want to move the email into, and select **OK**.

The **Move** option is available only if more than one folder (including the **Inbox**) exists below the **Project Mailbox** parent sub-node, and you have the permission to view the **Inbox**.

To create a folder:

1. Go to **Inbox**, and select **Create/Manage Folders** .
2. In the **Folders** dialog box, select **Create Folder**  to open a row on the grid.
3. Double-click each cell of this new row, under **Name** and **Email Address Code** columns, and enter the values.
4. When finished, select **Done**.
5. Ensure that you see the new folder under the **Project Mailbox** parent sub-node, below the **Inbox** sub-node.

You can create folders only if you have the permission to "Create/Manage" folders for the **Project Mailbox**.

You can change the order of the folders by moving the rows in the Folders window.

The folders below the Inbox node in the left Navigator are arranged according to the order of rows in the Folders window. The Inbox sub-node is always the top folder and directly below the Project Mailbox parent sub-node.

To delete a folder:

1. Go to **Inbox**, and select **Create/Manage Folders** .
2. In the **Folders** dialog box, select the row of the folder that you want to delete.
3. Select **Delete Folder** , and select **Done**.

To reply to an email:

1. Open the email, and select **Reply**.
The system displays the addressee's email address in the **External To** field. You can add additional external addresses in this field, separated by semi-colons (;).
2. (Optional) To add email addresses to the Cc line, select **Cc**. The User/Group Picker opens.

- a. Select the user(s) you want to add to the message, and select **Add**. The names appear in the **Selected Users** area at the bottom of the window.
 - b. Select **OK**.
3. (Optional) To attach a file to the reply, select **Attach**, and choose **My Computer** or Primavera Unifier **Folder**.
 - a. In the window that opens, select the file you want to attach, or browse your computer directories to locate the files to attach.
 - b. Select **OK**. The system attaches the file to your reply.
4. Enter your reply, and select **Send**.

The system sends the email to the persons you specified.

Note

After you reply to an external email, the communication will become part of Unifier mailbox system. To see your reply, or any other communication regarding this email after this point, look for it in the **Inbox** sub-node of the left Navigator. Any reply you made to the email will appear in the **Sent Items** sub-node of the **Mailbox**, node. Any email you forwarded will also appear in the **Sent Items** sub-node of the **Mailbox** node.

To forward an email:

1. Open the email.
2. To forward the email, select **Forward**. A forward email window opens.
3. Select **To** (and optionally, **Cc**). The User/Group Picker opens.
4. Select the user(s) to whom you want to forward the message, and select **Add**. The names appear in the **Selected Users** area at the bottom of the window.
5. (Optional) To forward the email to external users, enter their addresses in the **External Cc** field, separated by semi-colons (;).
6. Select **OK**. The system forwards the email to the persons you specified.

To delete an email:

On the Mailbox log, select the email, and select **Delete**. To delete multiple emails, hold down the **Ctrl** key on your keyboard and select the emails.

To print an email:

On the Mailbox log, select the email, and select **Print**  from the toolbar. To print multiple emails, hold down the **Ctrl** key on your keyboard and select the emails.

To find a specific email:

1. On the Mailbox log, select **Find**. The system opens a Find window at the top of the log.
2. Enter the search criteria.
 - To search for an email from a specific person, enter the person's email address in the **From** field.
 - To search for an email with a specific subject line, enter the subject line in the **Subjectcontaining** field.

You can enter partial addresses or words in any of these fields. The system will display all the emails that match the partial information you entered.

To search for an email with some specific content in the message, enter that content in the **Messagecontaining** field.

3. Select **Search** (or press **Enter**).

The system will display the emails that match the criteria you entered. It will also identify the criteria by which you have searched the list in the "**Current View: filtered by**" line above the list.

Distributing the Project Mailbox Email Address to Users

Usually, your Administrator distributes the email address of the Project Mailbox to all project participants, both within and outside of Unifier. You can also distribute this email address to other users you consider appropriate for the project.

Ensure that you notify your Administrator of these new users. The Administrator must add the new email addresses to the approved email list for the project; otherwise, the Project Mailbox will not accept emails from these users.

The Administrator can define the project email address to create a more meaningful name that is related to the project.

To distribute the Project Mailbox email address:

Open the project home workspace, and select the link shown for Email Address.

When an external user replies to a notification email:

- The address field of the form is automatically set to display the email address of the project.
- The reply email is captured in the project mailbox.

Working with Tasks, Notifications, and Drafts Nodes

When you are part of a business process workflow, you may be assigned a task.

- **Tasks** are steps for which you are currently the assignee.
- **Notifications** are records that you have been sent a copy but do not need to act.
- **Drafts** are items that you have worked on and saved but have not yet sent.

You can access your tasks, notifications, and drafts in the following locations:

- Home tab, which shows your assigned tasks from all project/shell- and company-level BPs. Go to the **Home**  tab. In the left Navigator, select **Tasks**, **Notifications**, or **Drafts**. From the applicable log, open one of the items that required your attention or you want to work with.
- Company Workspace, which shows your assigned tasks for company-level BPs. Go to the **Company Workspace** tab, and switch to **User** mode. In the left Navigator, select **Tasks**, **Notifications**, or **Drafts**. From the applicable log, open one of the items that required your attention or you want to work with.
- Project/Shell, which shows your tasks from the selected project/shell.

Go to the shell tab, and switch to **User** mode. In the left Navigator, select **Tasks**, **Notifications**, or **Drafts**. From the applicable log, open one of the items that required your attention, or you want to work with.

Working with Your Project Information

You can access your project information from the **Information** node of that project. To do so:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Information**.

The **Information** node provides two sub-nodes — **Directory** and **General** — that provide more details about the project as explained below:

Directory

Contains a collection/log of the project-team members and their contact information. You may view the contact information of fellow team members and send email from within the system.

Note

- Project members are listed if they are Active and the **Show user on the Projects Directory** option is selected for the user's account.
- A printed version of the Project Directory can be generated using user-defined reports.

The Directory toolbar includes the following options:

- **View**
 - Users/Groups: Name and Company columns are visible on the grid
 - Groups: Name column will be visible on the grid
 - Users: Name column will be visible on the grid as defined in uDesigner
- **Send Email:** To send an email, select a team member's name and click **Send Email**.

Note

This button will be visible when the **Hide User Profile** option is unchecked. It will be hidden when the option is checked.

- **Search:** To **Search** for users based on the selected **View** (Users/Groups, Groups, Users)
- **Find on Page:** To do a quick search for users based on the visible columns

To view a team member's user profile:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Information**, and then select **Directory**.
3. In the **Directory** log, select the user.
The user details become visible in the right pane. The **General** tab will include the user's **Name** and **Company**. Additionally, in the **Contact Information as in** section, you can choose one of the following:

- **Company:** Displays the user's company contact information.
- **<Project Number: Project Name>:** Displays contact information specific to the current project, such as an on-site address or cell phone.

A **Basic Information** section will also be visible when the **Hide User Profile** option is unchecked.

To send an email:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Information**, and then select **Directory**.
3. In the **Directory** log, select a user or group or both.
4. From the toolbar, select **Send Email**.

You can also use **Select**  to select additional users or groups from the User and Group Picker window. The ability to pick applies to the "To," "CC," and "Bcc" fields.

You may also contact a team member using Mailbox. Mail from all places in the product support Users and Groups as recipients.

Note

Email sent through your external email program will not be saved as part of the Unifier project record.

General

Contains a collection/log of the general information business process records that may have been added to the project.

The listed BP records originate as single-record business processes. In other words, only one BP record exists for each BP, per project. The **General** log is useful for project-specific information that only needs to be documented on a single form. It is a way to easily categorize, and find, big-picture project information, for example, the overall project data or descriptions.

To open a record, double-click it or select **Open** from the *gear menu* (.

Working with E-Signatures

You can use the system to send one file or a set of files for an electronic signature (e-signature), and you can send the package to other Unifier users and to external users. You can complete this step from the Document Manager or from a specific business process (BP). If you are using envelopes in DocuSign or Acrobat Sign, you can group documents into a single envelope. When the documents included in an envelope are returned to Unifier, they are consolidated into a single PDF instead of returning as individual attachments.

Internal user

When a **Send for E-Signature** action is taken, and one or more documents are sent to Unifier users (**Internal users**), an entry is made in the **E-Signatures** node.

The internal users can act on the E-signatures task from the:

- E-Signatures node.

- Email sent from Unifier (if this is configured in the user's **Email Subscription** tab, which is in **Preferences**).

When sending an E-signature request to internal users, the **Internal recipients** field in the **Request eSignature** dialog box lets you type-ahead to find a user or group. You can select one or more users or groups and send an E-signature request.

External user

When a **Send for E-Signature** action is taken, and one or more documents are sent to non-Unifier users (**external users**), the entity that provides electronic-signature technology (DocuSign or Acrobat Sign) sends an email to each assignee (one email per document). The non-Unifier users can go to the Documents log in the Document Manager, select a document, and select **Sign** from the *gear menu* (⚙️) to sign the document. This action launches the entity that provides electronic signature technology (DocuSign or Acrobat Sign) and enables the user to conduct a self-sign.

The external users are *unable* to act on the E-signature task from the email sent out from Acrobat Sign or DocuSign.

When sending an E-signature request to external users, you can enter multiple email addresses separated by commas or semi-colons in the External recipients field of the Request eSignature window, and then select Send.

If the external user enters an invalid email address, Unifier logs the signee's E-signature status as Failed in the E-signature **Requests** log. Unifier enables the user to hover over the status (Failed) and see the reason for failure, for example: Mailbox unavailable. Alternatively, the user can also select the *gear menu* (⚙️) Reason for Failure and see the reason.

If there are only external signees in an E-signature request and all the email addresses of the external signees are invalid, the status of the request will be set as Failed in the:

- Documents log in the Document Manager
- Attachments tab for BP Upper Form or Detail Form
- Attachments Review tab

If any of the recipients (external or internal) in the E-signature request is a valid one, the status of the E-Sign request is based on the status of the valid signees. The system ignores the failed signee.

Proxy user

A proxy user can see all the E-Signature features (E-Signatures node, Status column on the E-Sign Log tab in the Document Manager, Send for E-Signature and Self-sign actions, and so on) as they can be seen by the original user. If the proxy takes any of the E-Signature actions (Self-sign or Sign request from the E-Signatures node), then:

- The grid in the E-Sign Log tab displays one more column at the very end (Proxy User). The name of the proxy user is captured in this column (similar to the Proxy User column within the Audit log of a BP log). This column shows up in the grid only if there has been a proxy action by at least one signee within an E-signature request.
- The Signee column shows the original signee's name. However, the exclamation-mark icon (at the end of this column) will indicate whether the signature action has been taken by a proxy. Hovering at this icon displays: Signed by Proxy User: <Proxy User Name>
- The Proxy User action options are available where the E-Sign Log can be seen (E-Signatures node, Document Manager, BP Attachments tab).

Note

The proxy users can see the E-Signature count on the Company, Shell, and Project home landing pages.

Project landing page

Similar to the Company and Shell home landing pages, the project landing page shows the count of pending E-signatures in the Items Requiring Your Attention section. The count can be seen below the Tasks count as: E-Signatures: <xx> Pending.

Note

The count is shown only if the E-signatures are enabled for the project.

Internationalization

The user's language preferences is used when the E-signature requests are sent out to external users by way of Acrobat Sign or DocuSign. For example, if a user's preferred language is Chinese, the E-signature email request sent to external signees will be in Chinese. The value of the "E-Signature Status" field is translated, and when you export the structure and properties of a DM file, the "E-Signature Status" column displays the translated status values.

DocuSign

When an internal or external user opens a document for signing, the document displays the option to reassign the document to someone else (Assign to Someone Else) by using the "Other Actions" drop-down menu. Follow the prompts and note that:

- The document E-Signature Status in the DM log, BP attachments, or review attachments window (depending on whether the document was sent for E-signature from DM or BP) continue to reflect as "In-Progress."
- The E-Sign Log tab, in the right pane of the DM log or the BP Attachments tab, is updated with:
 - The original signer's "E-Signature Status" as "Reassigned."
 - The "Completion Date" for the original signee with the date when the task was reassigned.

In addition, one more row will be inserted in the E-Sign Log tab with the:

- New signer's name ("Signee").
- E-Signature Status (as "Delivered").
- Initiated Date (as the date when the E-Signature task was reassigned to the new signer).
- Completion Date (as the Date when the new signer brings the E-Signature task to a terminal state: Completed, Declined, Reassigned, or Recalled).
- Signer Number: If No Order was selected, displays No Order. If Sequential Order was selected, indicates the order of the Signee in the list.

When an E-Signature task is reassigned, DocuSign sends two emails to the new signer:

- The first email goes from the first assignee of the E-Signature task (who did the reassigning). After the new signer selects "Review Document," DocuSign opens the document with features to electronically sign the document.

After the document signing by the new signer is complete, the DM log or the BP Attachments tab from where the document was sent for signature will be updated with the existing row for the new signer in the E-signature Requests log with appropriate "E-Signature Status" and "Completion Date."

- The second email is sent to the new signer from the original sender of the E-Signature task.
 - After the new signer selects "Review Document," DocuSign opens the document with features to allow for the document to be signed electronically.
 - After the document signing by the new signer is complete, the DM log or the BP Attachments tab will be updated with row for the new signer in the E-signature Requests log with appropriate "E-Signature Status" and "Completion Date."

Acrobat Sign

When an internal or external user opens a document for signing, Unifier displays the option to reassign the document (Delegate this document). Follow the prompts and note that Acrobat Sign will send an email to the new signer.

When a signer delegates an E-Signature task to another assignee:

- The "E-Signature Status" in the right pane of the DM log or the BP Attachments tab for the original signer will be updated as "Reassigned."
- The "Completion Date" will be updated as the date when the signer did the delegation or reassignment.
- A new row will be included in the E-Sign Log tab with the name of the new signer.

When a new signer responds to the E-signature request email, the signer can select to review and sign, or to delegate.

Reports or Custom Prints

When you create a User-defined Report (UDR), a Custom Print, or a Custom Report at any location in Unifier, you can add the E-Signature Status, or the fields, from the E-signature Requests log in the report.

Completed Signature Requests

After all recipients have signed the request, they receive an e-mail notification. If they are using DocuSign, individual attachments are included in the email. If they are using Acrobat Sign, a single file that contains the combined documents is included with the email. For Unifier users, the signed file can also be viewed on the **E-Signatures** node. The signatures of the recipients appear on the actual page that they signed; they are not grouped on a specific page.

E-signature Requests Log

To access the **E-Signatures** log:

1. Go to the project/shell tab, and switch to **User** mode.
2. In the left Navigator, select **E-Signatures**.

The **E-signature Requests** log has the following tools, options, and columns:

E-signature Requests log toolbar

Field	Description
View 	The function is similar to the View option available in several other logs. The options are: • All • Group by Status • Group by Envelope Code • Create New View • Manage Views
Edit View 	The function is similar to the Edit View option available in several other logs. Use this option to edit the current view (Active View).
Delete 	Select one or more tasks, and then select delete. You cannot delete incomplete tasks (tasks with Status set as In-Progress). If you delete a completed task, the log for the E-Sign Log tab (in Document Manager and within a BP record) displays the Status.
Print 	The function is similar to the Print option available in several other logs. The options are: • Print • Export To CSV • Export To Excel
Search 	Select to open the Search window at the bottom of the page. You can search inside all the columns available in the log.
Find on Page 	The function is similar to the Find on Page option available in several other logs.

E-signature Requests log columns

Column	Description
Name	The name of the document that has been sent for E-Signature. The column displays the file-type (extension) along with the name.  Note Because DocuSign converts all files to .pdf, the extension will always be .pdf in this column.
From	The name of the user who initiated the Send for E-Signature action (from the Document Manager or from within a BP record).

Column	Description
E-Signature Status	The status of the E-Signature task: In-Progress: When assignee has not yet taken any action on the signature task. The default Status of any E-Signature task. Completed: When assignee opens the E-Signature task through DocuSign and selects Continue in the resulting window. The system populates the DocuSign fields, available on the left, (Signature, Initial, Date Signed, Name, First Name, Last Name, and so on). Assignee selects Finish at the top to complete the signing. Declined: When assignee opens the E-Signature task and selects the option Decline to Sign. Recalled: The E-Signature task for all signers who have not yet completed the E-Signing process are recalled. If an E-Signature task has been created by way of Send for E-Signature action (from the Document Manager), sent to multiple signers, and at least one signer declined the task, or If an E-Signature task has been created by way of Send for E-Signature action (from within a BP record) and that BP record reaches a Terminal status. In such cases, when a user opens a task, the system displays an alert indicating that the Status is set to Recalled, and the Completion Date is set to the date when the task was recalled.
Envelope Code	If you are using envelopes in DocuSign or Acrobat Sign and a document or group of documents was submitted for an E-signature request, this column displays the code assigned to the envelope that contains the applicable documents. If an envelope is resubmitted for signatures, the code is overwritten with a new code.
Subject	The subject of the Send for E-Signature message.
Location	If the document was sent for signature from the Document Manager, this column displays the location in the Document Manager, for example: ... /Field Reports/Action Items. If the document was sent for signature from a BP record, this column displays the BP record number.
Received Date	The date when the Send for E-Signature task was received by the assignee. The default sort for this column is Received Date with latest received task at the top.
Completion Date	The date when the E-Signature task reaches a Terminal state (Status = Completed, Declined, Recalled).

E-signature Requests log right pane

When you open the log, the top row item is selected by default, and the right pane displays the following tabs:

Tab	Description
Preview	Displays a preview of the document that has been sent for signature. If the E-Signature task is in any of following statuses, this pane displays a preview of the original document that was sent for E-signature: • In Progress • Declined • Recalled If the E-Signature task is in a Completed status, this pane displays a preview of the signed document.
E-Sign Log	Displays a list of all internal and external users to whom a given document (from the Document Manager or from within a BP record) was sent for signature through the Send for E-Signature. The toolbar options let you: • Print  : Print documents. • Download  : Download the latest signed copy of the document. The columns are: • Signee: The name of the user who must sign, or has signed, the document. If an internal user, the cell contains the user's first and last names. If an external user, the cell contains the user's email address. • Status: The E-signature status of the document for the signer. It can be: Delivered, Completed, Declined, or Recalled. • Initiated Date: The date when the document was sent for E-signature. This can be the date that an action was initiated by an internal user using the Sign option from the <i>gear menu</i> (). • Completion Date: The date when the E-signature task has reached a Terminal state (Status = Completed, Declined, Reassigned, Recalled). If a signer (internal or external) declines an E-signature task, you can see the reason by selecting the signer's entry and opening the Reason for Decline block at the bottom of the tab. • Signer Number: If No Order was selected, displays No Order. If Sequential Order was selected, indicates the order of the Signee in the list.
Message	Displays the message sent by the sender, when sending the document for signature through the Send for E-Signature.

E-signature Requests Log

If a signee declines an E-signature request, the log captures the status as Declined. When the status is Declined, the tooltip and the *gear menu* () display the reason for decline.

When you select an E-signature request from the **E-signature Requests** log, you can see the **E-Sign Log** tab in the right pane. The tab contains the:

- Message that was sent out at the time of sending the E-Signature request
- A log of all E-signature requests statuses.

When you hover over a row in the **E-signature Requests** log, the *gear menu* () appears and enables you to perform the following on a task:

- **Sign:** Enables you to open the document and sign or do other reviews.
- **Delete:** Enables you to delete a task. You cannot delete an incomplete task (In-Progress, Deferred, or FaxPending).

When you double-click a row in the log, the sent document opens in the entity that provides electronic-signature technology (DocuSign or Acrobat Sign). Follow the prompts, and when done, select **Finish** to close the external application.

After you finish signing a document, the log gets updated and the status changes to: **Completed**. At this stage, Unifier updates the **E-Signatures** log of the module (Document Manager or BP record) where the document was sent from and changes the status to: **Completed**. This update process also applies to the **Completion Date**.

After a document is signed (E-Signature status = Completed), the signed file gets added as a revision of the original file (as a pdf file and name appended by "_signed" and indicating the number of times the file was sent for E-signature).

Using Contact Lists

If your project or shell administrator enables access to the **Contact Lists** feature, you can use it to create contact lists (if you have Full Access permission) or use existing lists (if you have View permission). This centralized repository lets you communicate with relevant personnel, even if they do not have access to Unifier, without having to enter contact information manually each time you have something to share.

In addition to maintaining and using a comprehensive list of email addresses associated with contacts for each project or shell, the feature also lets you create multiple lists within the project or shell, so that you can communicate with specific groups. For example, you might want to notify external subcontractors when a contract is approved, which lets them know that they can proceed with their tasks. Depending on your permissions, you can also update the settings for an existing list, add additional contacts, delete contacts or a list that is no longer required, review changes that have been made, and so on.

After contact lists are created, you can perform additional actions, such as sorting  multiple lists by name and searching  for a specific list or a member if you have View permission, and updating existing information or adding members, if you have Full Access permission.

Creating a Contact List

If you have Full Access permission, you can create a contact list by manually entering information or by copying an existing list from another active project or shell. If a list has not been created yet, the page displays a message indicating that you can create your first contact list.

To create a contact list manually:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Contact Lists**.
The Contact Lists page appears.
3. Choose one of the following:
 - To create your first contact list, select **Create**, and select **Create**.
 - To create an additional contact list, select **+ Add**.
4. In the **Name** field on the **Create Contact Lists** drawer, enter a name, up to 64 characters, for your new list.
The name must be unique within the project or shell.
5. (Optional) In the **Emails** field, enter a list of email addresses separated using a semicolon (;).
You do not have to enter the email addresses now. You can enter up to 50 email addresses, but the character count cannot exceed 4000.
6. (Optional) In the **Description** field, enter additional information, up to 250 characters.
7. In the **Language, Date and Time** and **Number and Currency** sections, update the applicable information if you do not want the system to your preferred default settings.
8. Select **Create**.

To create a contact list by copying an existing list:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Contact Lists**.
3. Choose one of the following:
 - To create your first contact list, select **Create**, and select **Copy From**.
 - To create an additional contact list, select **+ or Copy From**.
4. In the **From Project** list on the **Copy Contact Lists** drawer, select an existing *Active* project or shell to which you have access.
5. In the **Select Contact List**, select the name of the list that you want to copy.
6. Select **Copy**.
7. If the copy process determines that duplicate entries might be created in the target, select **Ignore** to cancel the copy process, select **Replace Existing** to overwrite the entry in the target, or select **Create Duplicates** to create a second entry.

Managing Contacts and Contact Lists

If you have the applicable permissions, you can update the settings for an existing contact list, add additional contacts, delete contacts or a list that is no longer required, review changes that have been made, and so on.

To manage a contact list or contacts:

1. Go to the Project/Shell tab, and switch to **User** mode.
2. In the left Navigator, select **Contact Lists**.
3. On the **Contacts Lists** page, select the applicable list.

4. Complete any of the following:

- To add a member, select  **Add**, enter the email address, and select **Add**.
- To update a member's email address, select  **Edit** for the applicable member, make the change, and select  **Save**.
- To remove a member from the list, select  **Delete** for the applicable member.
- To update the settings for a list, select the list, select  **Edit** in the upper-right corner, make the changes, and select **Update**.
- To delete a list, select the list, select **More Actions** , and select **Delete**. When the confirmation message appears, select **Delete**.

Viewing the Audit Logs for Contact Lists

Using the Audit Log, you can see what changes were made, when, and by whom. You can view the log for all contact lists associated with a specific project or shell, and you can view the log for a specific contact list.

To view the Audit Log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Contact Lists**.
The Contact Lists page appears.
3. Choose one of the following:
 - To view the log for all contact lists, select **Audit Log** in the upper-right corner.
 - To view the log for a specific list, select the list, select **More Actions** , and select **View Audit Log**.
4. To download a Microsoft Excel version of the log, select  **Export**.

Working with Gates and Phases

Gates provide a structure to assess the quality and integrity of a project/shell throughout its life cycle.

Gates are, in essence, acceptance reviews following which a project/shell can advance to the next phase in the its life cycle. For each phase of the project/shell, a series of gate conditions are defined and tracked. Each gate condition is evaluated against actual project/shell data and is marked complete if conditions are met. After all conditions are complete, the project/shell moves to the next phase either automatically or manually, based on the configuration.

Phases and gate conditions are configured in Admin mode. For more information, see *How to Set Up Gates*.

View the Gates Dashboard

When working with projects/shells, you can use the Gates dashboard to:

- Monitor the progress of phases.
- View phase conditions and their definitions.

- Run a gates process.
- Manually override gates conditions.
- Manually advance a project phase.

To access the Gates dashboard:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
The Gates dashboard opens. The upper section indicates the status of the gate, such as Active or Inactive, and provides access to additional steps that you can take, such as viewing the Audit Log or manually moving the project/shell to the next phase. The Phases column on the left lists the phases assigned to the project/shell and indicates the current status. The Phase Information on the right provides more information and provides the option to search for specific conditions.
3. To view information about a specific phase, in the left column of the dashboard, select the phase.

View Gate Condition Details

To view gate condition details:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the left column of the **Gates** dashboard, select the applicable phase.
4. In the right column, select the linked **Condition Name**.

The Phase Condition window displays the data type, data element, and trigger condition in a view-only format.

Validate Gate Conditions Manually (Refresh)

You can manually validate conditions, which is the same validation that is performed during scheduled runs. The dashboard is updated to show any changes to the gates conditions.

Note

Your Administrator can configure the gates setup so that conditions are validated on each gates run.

To validate conditions manually:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the upper section of the **Gates** dashboard, select **Actions**, and then select **Refresh**.

If a gates condition is met, the condition is marked as Complete. If all gates conditions are found to have been met for a project/shell phase (and if Automatic Advancement is **Yes**), the project/shell phase advances to the next phase.

Edit Phase Details

To edit phase details:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the left column of the **Gates** dashboard, select the applicable phase.
4. In the right column, do any of the following:
 - Mark a gate condition as complete by selecting the **Complete** checkbox next to it.
 - Mark a completed gate condition as not complete by deselecting the **Complete** checkbox.
 - Select and view gate condition details by selecting the linked **Condition Name**.
 - Add or view comments by selecting **Comment** .
5. When you are done, select **Save**.

Advance to the Next Phase

After the gate conditions have been met for the current phase, you can manually advance a project/shell to the next phase.

To advance to the next phase:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the upper section of the **Gates** dashboard, select **Advance to Next Phase**.
4. In the **Confirmation** message, select **Yes** to confirm the advancement.
The system validates whether all gates conditions have been met for that phase. If all gates conditions have been met for the current phase, the project/shell advances to the next phase. If any gate conditions have not been met, you can do the following:
 - Manually mark a gate condition as complete.
 - Select the **Ignore Condition** checkbox to override the gate condition requirements. For more information, see [Edit Phase Details](#).
 - Select the phase, and select the linked **Condition Name** to view details about the phase and gate conditions to determine what needs to be done to meet the condition.
5. After changing the **Project Phase** in the **Shell Details** form, perform any of the following actions to prevent creating a workflow BP record in a different project phase:
 - Reload the page.
 - Close and reopen the **Shell** tab.

Return to a Previous Phase

To return to a previously completed phase and set it as the current phase:

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Gates**.
3. In the right column, do one of the following:
 - Select a gate condition and deselect the **Complete** checkbox so that it is no longer complete.
 - In **Admin** mode, add a new condition so that the completed phases are no longer complete. To do so, you must deactivate the gate, add the new condition, and then activate the gate. For more information, see *How to Set Up Gates*.
4. When you are done, select **Save**.

Add or View Phase Comments

To view or add comments in a phase:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the left column of the **Gates** dashboard, select the applicable phase.
4. In the right column, add or view comments by selecting **Comment** .
You can view comments posted by others and upload files from your local system. To view attached files, you must download them to your system first. The types of files that you can upload is based on the settings established by your administrator in the **Security** tab of the **Company Settings** (for more information, see *Updating Company Settings on the Security Tab*).
5. If you added a comment or uploaded an attachment, select **Post** to save your changes.

Note

After you have saved a comment, it cannot be edited or deleted.

6. When you are done, select **X** to close the Comments box.

View, Print, or Delete Saved Gates Runs

You can view results from prior scheduled gates runs and search the list for specific results. You can also download a PDF version of a selected run or delete one or more selected runs.

To view saved gates runs:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the upper section of the **Gates** dashboard, select **Actions**, and then select **Saved Gates Runs**.
4. On the **Saved Gates Runs** tab, do any of the following:
 - To search for a specific run, enter the search criteria in the **Search Log** field.
 - To view a specific run, select the checkbox for the run, and select **Download**. The system generates a PDF file, whose name includes the shell/project name and the date and time of the gates run.

- To delete one or more runs, select the applicable checkboxes, and select **Delete**. When the **Confirmation** message appears, select **Yes** to continue.

View the Gates Audit Log

You can view the Audit Log and search the list for specific results. You can also download a PDF version of the log.

To view the Gates Audit Log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Gates**.
3. In the upper section of the **Gates** dashboard, select **Actions**, and then select **Audit Log**. The Audit Log captures information such as the date and time at which a specific Event or Action occurred.
4. On the **Audit Log** tab, do either of the following:
 - To search for a specific entry, enter the search criteria in the **Search Log** field.
 - To download a PDF version of the log, select **Download**. The system generates a PDF file named Report.

Common Procedures

This section summarizes some procedures that are the same or very similar in different sections and modules within the system.

Queries

You will be using queries to extract data from the database for reports and data pickers and to set up auto-creation with creator elements.

A query is a data mining tool—a method for retrieving information from a database. A query filters the information returned from the database according to restrictions or conditions you specify. Unifier queries can:

- Filter or narrow the data being retrieved for use in reports and manager sheets.
- Set up conditions or triggers to make something happen automatically.
- Filter or narrow the data being retrieved for use in a data picker element.

Using Formulas or Conditions in Queries

For queries, you can evaluate the data before retrieving it from the database to determine whether to include the value in the report, manager sheet, or data picker, or to spawn an auto-creation. To evaluate the data, you can use a formula or a condition.

In formulas, multiple fields can be calculated to arrive at a certain value that the data must meet before it will be used. The value can be one that you enter, or a value from another field.

You can include formulas in conditions.

In the **Condition** field, select the condition the value in the field must meet.

The following explains the formulas that you can use in a query.

Field Value Comparison

The formula for field value comparison produces data that meets a field value (string or numeric) from the form of a business process or a shell in a hierarchy, or a constant. This is then used to populate a data picker.

Test the value of this field...

...using this operator...

...against the value of this field in this data source (business process or shell)

OR

...against this word(s) or number(s)

Date Plus or Minus

The formula for date adds or subtracts a value to or from a date.

This date...

...plus or minus...

...the value in this element...

OR

...this number of days.

Date Difference

The formula for date difference subtracts one date from another to give you the number of days between the dates.

This date...

...will be subtracted from this date to produce the date difference.

Compare Date Fields

You can also compare date fields as part of a query.

The screenshot shows the 'Add Query Condition' dialog box. It contains the following fields and annotations:

- Data Element:** A dropdown menu with 'Creation Date' selected. An arrow points to it with the text: 'Test the value of this data element... using this operator...'.
- Condition:** A dropdown menu with 'equals' selected. An arrow points to it with the text: '...against the value in this element...'.
- Date Section:**
 - Data Element:** A dropdown menu with '-Select-' selected. An arrow points to it with the text: '...against the value in this element...'.
 - Date:** A text input field with a calendar icon. An arrow points to it with the text: '...against the date you enter here...'.
 - Today:** A radio button. An arrow points to it with the text: '...against today's date'.
- Add/Subtract days:** A dropdown menu with 'Plus' selected. An arrow points to it with the text: '...(optionally) plus or minus...'.
- Number of days Section:**
 - Data Element:** A dropdown menu with '-Select-' selected. An arrow points to it with the text: '...the value in this element...'.
 - Days:** A text input field. An arrow points to it with the text: '...this number of days...'.

OR

Dynamic Date Value

You can compare a date field value with a date field from the form of a business process or a shell in a hierarchy, a specific date, or today's date, and also add or subtract days to the result. This is then used to populate a data picker.

The screenshot shows the 'Add Query Condition' dialog box. It contains the following fields and annotations:

- Data Element:** A dropdown menu with 'Date' selected. An arrow points to it with the text: 'Test the value of this data element... using this operator...'.
- Condition:** A dropdown menu with 'equals' selected. An arrow points to it with the text: '...against the value of this field in this data source (business process or shell)'.
- Date Section:**
 - Dynamic:** A radio button, selected. A red circle highlights the 'Data Source' and 'Data Element' dropdowns. An arrow points to the 'Data Source' dropdown with the text: '...against the value of this field in this data source (business process or shell)'.
 - Date:** A text input field with a calendar icon. An arrow points to it with the text: '...against the date you enter here...'.
 - Today:** A radio button. An arrow points to it with the text: '...against today's date'.
- Add/Subtract days:** A dropdown menu with 'Plus' selected. An arrow points to it with the text: '...(optionally) plus or minus...'.
- Number of days Section:**
 - Dynamic:** A radio button, selected. A red circle highlights the 'Data Source' and 'Data Element' dropdowns. An arrow points to the 'Data Source' dropdown with the text: '...the value of this field in this data source...'.
 - Days:** A text input field. An arrow points to it with the text: '...this number of days...'.

OR

Between Dates

You can compare a date field value to see if it falls between two dates. This is then used to populate a data picker.

Add Query Condition

Data Element:

Condition:

Date

☒ Dynamic:

☐ Date:

☐ Today

AND

Date

☒ Dynamic:

☐ Date:

☐ Today

OK Cancel

Test the value of this date to see if it is between...

...the date in this field in this data source (business process or shell)
OR
...the date you enter here...
OR
...today's date...

AND

...the date in this field in this data source
OR
...the date you enter here...
OR
...today's date.

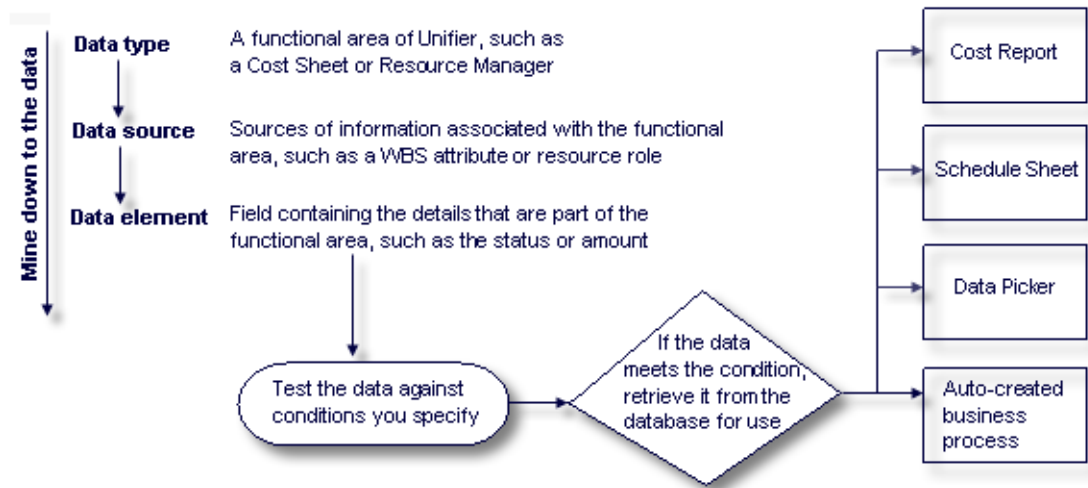
How Queries Work

The way queries work in Unifier is as follows:

- You mine down to the information you want by choosing an element (field) in the database on which to base the query.
- You test the data against conditions and values that you specify.

A condition is a state or restriction that the value in the data element (field) must meet. A condition of the value might be that it must be equal to a certain number (for example, 10) or that it must contain a certain string of letters (such as "due date of").

- When (or if) the data meets the condition you specify, the system retrieves it from the database for use in a report, manager sheet, auto-creation, data picker, and so on.



Assignee Filter Query Condition

When you are setting up a business process, you can filter the condition for the *assignee* according to:

- Contains
- Does not contain
- Exists in
- Does not exist in
- Equals
- Does not equal
- is empty
- is not empty

The following is an example of query evaluation. The workflow setup follows these policies for selecting users.

Assignee	Query Field (Role as defined in the User Attributes Form)
A	Approver
B	Reviewer
C	Controller-Approver
D	Controller
E	Reviewer-Submitter
F	Submitter
G	Approver

The following shows examples with condition/operator:

Condition/Operator	Business Process Form (Field value) Example of the data source used.	Filtered List of Assignees
exists in	Controller-Approver	A, C, D, G
	Reviewer	B
does not exist in	Controller	A, B, C, E, F, G

Note

If the workflow setup has any of the new operators, the list of *assignees* that the user sees at runtime retains the stated query parameters.

The following shows examples with value, condition/operator, and result:

Value 1	Condition/Operator	Value 2	Result
ABC	exists in	ABC, BCD, CDE	True
XYZ	exists in	ABC, BCD, CDE	False
ABC	does not exist in	ABC, BCD, CDE	False
XYZ	does not exist in	ABC, BCD, CDE	True
ABC, BCD, CDE	contains	ABC	True
ABC, BCD, CDE	contains	XYZ	False
ABC, BCD, CDE	does not contain	ABC	False
ABC, BCD, CDE	does not contain	XYZ	True

Query Based Data Element (QBDE)

A Query Based Data Element (QBDE) lets you view data from the Upper Form or Detail Form of a Business Process (BP). QBDE also lets you view data from:

- Other BPs
- Sheets
- Cash Flow

The QBDEs are based on the “SYS Numeric Query Based” Data Definition (DD), and the query for these QBDEs is set in the Business Process Configuration setup. For more information, see *Configuring a Query for a Query Based Data Element on a BP*.

In addition to the Web interface (Unifier application in the browser), the system evaluates QBDE in the following areas:

- CSV import for record creation
- CSV import for Line Item creation
- Web Service methods for record creation along with Line items
- Web Service methods for Line Item creation
- Web Service methods for record updates

- Bulk Edit
- Bulk Update
- Creating BP records using BP

Note

- Because the system evaluates QBDEs in a random order, Oracle recommends that you do not create a QBDE that uses a formula that references another QBDE.
- DEs that have been defined as a QBDE trigger element should not be evaluated as part of QBDE calculation.
- Oracle recommends that you do not use a Required field to create a query that uses a Data Picker, Cost Breakdown Structure (CBS) Picker, or Fund Breakdown Structure (FBS) Picker. If the data entered in a data element (DE) field with a Required condition is *cleared*, the system bases the query on the previous value of the field.
- When using QBDE, be aware that query elements are rounded off to use two decimal places, even if the Base Currency and various defined currency fields are different.

Evaluating Query Setups of Data Picker Data Elements

The system supports many types of Data Picker DEs. The Administrator can set up Query conditions on these Data Picker DEs to filter the results. When a Data Picker DE is launched in the Web interface, the system runs the query and displays the records based on the queries defined in uDesigner. The system evaluates the data picker query conditions in the following areas, as well:

- CSV import for record creation
- CSV import for Line Item creation
- Web Service methods for record creation along with Line items
- Web Service methods for Line Item creation
- Web Service methods for record updates

The following is a list of the supported Data Pickers:

- BP Data Picker
- Shell Data Picker
- User Data Picker
- CM Data Picker
- Role Data Picker

Note

If a BP Data Picker (BP Picker) or any Data Picker is selected as a trigger element for QBDE and the picker value is automatically populated (auto populated) instead of manually entered, the QBDE element will not be evaluated.

For more information about importing data, see Importing Configuration Packages.

Creating a Record from the Query Based Tab

When creating a record from the Query Based tab of another BP (that auto-populates data to the record being created), the Data Element (DE) of type "SYS Numeric Query Based" Data Definition (any DE of this type) *is not updated*, unless the user manually changes the trigger element.

If a query condition involves only constant dates, it is not converted based on the user's time zone.

Attaching Files

If you have the proper permissions, you may attach files (such as Word documents, spreadsheets, drawings, PDFs, 2D and 3D files, and so on) to:

- **Business Process Forms:** If you are creating or participating in a business process workflow, you can add attachments to the form or to a general comment associated with the form. Document type BP forms have special file attachment functionality. You can access the attachments in Workflow task emails under General comments section in the Document type BP.

Note

The Enable response via email option must be selected.

- **Cost Sheet, Funding Sheet, Schedule Sheet Cells:** You can add a file attachment to a cost sheet, funding sheet, or schedule sheet (or most any Unifier sheet) cells that have not been auto-populated from a business process. Open the cost, funding, or schedule sheet, and select a cell. The Cell Detail window opens. In the Cell Detail window, select **Attach**.
- **Mailbox Messages:** You can attach a file to a Mailbox message. Open a Mailbox message window, and select **Attach**.

Files can be uploaded and attached from your local system, or they can be attached from documents already uploaded and stored in the **Document Manager**.

The file attachment procedures are similar across the system. When an Attach Files option  or Attachments tab is available in a window, it is associated with the ability to attach a file. When attaching files, you will be presented with two options:

- Browse
- Document Manager

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager
- Business processes (BPs)

- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact.
Depending on the location of the infected file, the system might display a bug icon  (if the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).
- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later.
For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.
- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

 Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

Browse Option for File Attachments

If you select the **Browse** option, a new **Upload** window is displayed. You can drag and drop files from your computer to the **Drag and Drop** box or select anywhere in the **Drag and Drop** box and browse your local system for attachments. In the middle portion of the window, there is a **File** log that contains the following columns:

- File Name
- File Size
- Document Title
- Revision No
- Issue Date

In the lower portion of the window, you are provided with options that pertain to the uploading process. You can select **Revise automatically if file with same name exists**. However, unless you have more than one file with the same name, the **Revise automatically if file with same name exists** checkbox cannot be selected. You can choose whether to upload the files from your computer, auto-resolve the files from **Documents** as **Dynamic Links**, or auto-resolve the files from **Documents** as **Static Links**.

After you select files to upload, select **Upload** in the lower-right corner of the window. To close the window, select **Cancel**.

Document Manager Option for File Attachments

Files are uploaded to the Document Manager and stored in a folder system. Access permissions can be applied to individual folders and documents. You can attach documents from the Document Manager if you have at least view permission on the documents.

Select **Attach**. If you select the **Document Manager** option, a new **Select Files** window opens. This window displays the folder structure in the project/shell Documents functional node in the Document Manager. Here you can:

1. Open folders to view contents.
2. Select multiple documents or folders to attach.
 - All documents within folders and subfolders will be attached in a flat file.
 - Documents with duplicate file names will not attach.

You can browse a variety of existing folders from the **Document Manager** by selecting any of the folders in the **Project Documents** log. This log contains the following columns:

- Name
- Comments
- Location
- Owner
- Title
- Rev. No.
- Issue Date
- Size

In the top left corner of the window under the locator links, you can select the **Search** and **Find on Page** options. With the **Search** option, a new window is displayed where you can search for a file based on a variety of pre-determined conditions. You can also add conditions as well as match your search with any or all conditions. After you have entered information into the **Search** bar, you can select the **Search** option to begin the search process. To go back to the previous window, select **Reset**.

With the **Find on Page** option, you can search for a file or folder within the **Project Documents** log. A new row is created at the top of the log, and this row contains search fields for each column. Upon entering information into the search fields, any matching results are highlighted and displayed in the log. To restore the log to its original state, clear the search fields by deleting the entered information.

Note

- Folders cannot be selected and documents with duplicate file names cannot be attached.
- You must have at least view permission to the folders and files within the Document Manager to view and attach them.

After you select the files, click **Select** in the lower-right corner of the window. To close the window, select **Cancel**.

If you are creating or participating in a business process workflow, you can add attachments to a business process form or to a general comment associated with the form. Document-type business process forms have special file attachment functionality. You can add attachments to a general comment by selecting the **Attach Files** option  in the **Comments** tab of a document-type business process form. The previous **Browse** and **Document Manager** options are available.

When attaching files to a business process form, you may be presented with the previous two options as well as an additional option:

- Browse
- Document Manager
- Custom Print

Custom Print Option for File Attachments

If you select the Custom Print option, a new Print window is displayed. The window contains two sections, Custom Print Template and Template and Format. In the Custom Print Template section, there is a Title heading followed by a text box that displays the specific Custom Print Template data. In the Template and Format section, there is a Name textbox along with Template and Format drop-down lists.

Note

- A value must be entered into the **Name** textbox before proceeding.
- If there are no **Custom Print Templates** available for the business process, most of the elements of the window cannot be selected. The exception to this behavior is the **Name** text box.

After you select **Custom Print Templates** to attach, select **Attach** in the lower-right corner of the window. To close the window, select **Cancel**.

View 2D files in Unifier Viewer

You can use Unifier Viewer to upload and attach 2D files from your local system. For a list of supported file formats, see [File Viewer Option](#).

To view 2D files:

1. Go to a project/shell tab, and switch to **User** mode.

2. In the left Navigator, select any of the following nodes:
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Mailbox**, and then open an item in the **Inbox**, **Drafts**, or **Sent Items** folders.
 - Select **Project Mailbox**, and then open an item in the **Inbox** folder.
 - Select **Tasks**, open a business process, and select the **Attachments** or **Comments** tab (if applicable).

Note

The **Comments** tab and comments icon will not appear when no historical comments exist for the file and adding new comments is not permitted.

3. Right-click a 2D file, and then select **Open** or **Review**.

Note

(Cloud only) All 2D files display in the **2D Files** tab in the left pane.

4. (Optional) On the open file in the center pane, perform any of the following actions:
 - To maximize and view the file, select **View Fullscreen**.
 - To show or hide the files in the current folder, select **Files List** ().
 - To show or hide the comments panel (if available), select **Comments** ().
 - To annotate the file (if you have permissions), navigate to the **Annotation** toolbar. Comments are enabled in the default **View** mode. To customize the appearance or format of your annotation, select **Annotate**, **Shapes**, or **Insert**.
 - To close the 2D file, select **Close (X)**.
5. (Cloud only) In the left pane, select a 2D file, and then perform any of the following actions:
 - If eSignature is enabled for a business process:
 - To request an eSignature on the selected file, select **Request eSignature**.
 - To recall the file whose status is in **In Progress**, select **Recall Signature**.
 - To view the revision history of a file, select **History**. The current version displays first, followed by previous versions in descending order. The publication version displays within parentheses as a suffix to the file name. For example, (Pub 2).

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager

- Business processes (BPs)
- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact.
Depending on the location of the infected file, the system might display a bug icon  (if the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).
- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later.
For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.
- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

 Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

View 3D File Attachments in Unifier Viewer (Cloud Only)

You can use Unifier Viewer to upload and attach 3D files such as media, drawings, documents, and models from your local system. For a list of supported file formats, see [File Viewer Option](#).

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
In the left Navigator, select any of the following nodes:

- Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.

Note

- You can select and open up to 100 3D files simultaneously in a single viewing window. To do this in Unifier Viewer, select the option to open files, and then select the 3D files you want to view from the list. Check the boxes next to the files you want to include and select **Update Viewer**. To remove a 3D file from the combined view, uncheck the box next to the filename, and select **Update Viewer** again. To retrieve the latest status from the database, select **Recheck Virus Scan Status**.
- Some 3D files may take longer to open if they are large or complex. When you upload a large 3D file, Unifier checks whether the file meets the criteria for background preprocessing, allowing you to view it more quickly. If a file appears as "Being Processed" in the file navigation pane, you can still move it by selecting the gear icon and then selecting **Open**.

4. (Optional) Perform any of the following actions:
- To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history of the file in descending order with the current version of the file at the top, select **History**. The publication version of the file appears at the end of the file name in parentheses, for example, "(Pub 2)".
 - To close the 3D file, select **Close (X)**.
5. To interact with the 3D file, use the following viewing tools in the toolbar:
- [Measure Areas and Distances Using the Measure Tool](#)
 - [Section a Model using the Sectioning Tool](#)
 - [View Model in Perspective or Orthogonal Modes](#)
 - [View Model in the Walkthrough Mode](#)
 - [Use Camera Views](#)
 - [Enable or Disable Object Visibility](#)
 - [Reset Model to its Original State](#)
 - [Use Object Properties to Find Objects with Object Search](#)
 - [Composite Objects](#)
 - [Find Objects Using Explorer Panel](#)
 - [Properties Inspector Panel](#)
 - [Set your Viewer Preferences for Viewing 3D models](#)

Measure Areas and Distances Using the Measure Tool

You can use the Measure Tools in Unifier Viewer to identify distances between objects and areas in your 3D models. This reduces the time you need to find information and respond to inquiries.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. Navigate to the viewpoint you want to view, select **Measure** () in the toolbar, and then select any of the following menu options:
 - **Distance**: To measure the distance between two points in the model.
 - **Plane to plane**: To measure the distance between two facing objects.
 - **Multipoint**: To measure the boundaries and the area of a surface. A multi-point is also known as a polygon.
6. On the 3D model, select the points you want to measure. A guide line automatically appears when you start measuring an object. The **90° guide** shows you when the line you are drawing is not at a 90° angle to your original point so you can easily see if your line is straight or not.
 - To move a point, right-click the point or angle label to display the context menu, and then select **Move point**. To apply the point, select the new location.
 - To remove a point, right-click the point or angle label to display the context menu, and then select **Delete point**.
 - To remove a measurement, right-click the measurement to display the context menu, and then select **Delete measurement**.
 - To help you easily select a point when creating measurements, the following types of **Snap points** display on a drawing: **Corner**, **Surface**, and **Edge**.

Note

To move or remove a point, you must first finish the measurement.

7. To clear measurements, select **Clear All Measurements** in the **Measure** () drop-down list.

Section a Model using the Sectioning Tool

Use the sectioning tool in Unifier Viewer to add, move, remove, or hide parts of a model and give you a clearer view of a given area of a 3D model. For example, to view an interior of a room, create a section that cuts through the building to show its interior. You can also use multiple sections.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. Navigate to the viewpoint you want to view, select **Sections** in the toolbar, and then select **New Section**.
6. To view the section's position and plane, hover over the model to display the red box overlay with those details.

Note

You can exit **New Section** mode by pressing **ESC**.

7. To create a section plane, select the desired area. You can create up to six planes in a 3D model.
8. Perform any of the following actions:
 - To move a section through the 3D model, select the drag handle of the section, and move it in the desired direction.
 - To remove a single section, right-click its drag handle, and then select **Delete Section**.

- To clear all sections, select **Sections** in the toolbar, and select **Clear All Sections**.

View Model in Perspective or Orthogonal Modes

3D files or models can be viewed in Perspective (default) or Orthogonal modes.

- **Orthogonal:** Select this view if you want to rotate the model, pan and zoom in and out, as well as select and hide objects.
- **Perspective:** Select this view if you want to use the Field of View (FOV) mode to see through your eyes or a lens. As the FOV value increases, the angle of vision increases.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. Navigate to the viewpoint you want to view, select **View Mode**, and from the **Set Perspective or Orthogonal view** menu, select **Orthogonal** or **Perspective**.
 - To rotate the model in 3D, hold the left mouse button down and drag the mouse.
 - To pan, press ALT, hold the left mouse button down, and drag the model in any direction.
 - To zoom in or out, press CTRL, hold the left mouse button down, and move the mouse forward or toward you.
6. To use Field of View, from **Set Perspective or Orthogonal view**, select **Perspective**, and then select **Field of View**.
7. Perform any of the following actions:
 - To adjust your field of view in real-time, use the slider to change the angle of view in degrees.
 - To obtain precise values, enter values from 1.000 to 179.000. The model view will change when the value is updated.

The FOV setting is saved with viewpoints and design issues and will also be included in exports. When the viewpoint or design issue is viewed, the model view will be restored with the saved value.

View Model in the Walkthrough Mode

Walkthrough mode simulates interacting with the model as if you are walking through an object or structure. In Walkthrough mode, you can rotate the model, pan left and right, zoom in and out, and select and hide objects.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To use Walkthrough mode, select **Walkthrough** () in the toolbar, and perform any of the following actions:
 - To rotate the model in 3D from your viewpoint: click and drag the mouse.
 - To walk forward: press the **up arrow** key, or **W**.
 - To walk backward: press the **down arrow** key, or **S**.
 - To move right: press the **right arrow** key, or **D**.
 - To move left: press the **left arrow** key, or **A**.
 - To step right: press **SHIFT** and the **right arrow** key, or **D**.
 - To step left: press **SHIFT** and the **left arrow** key, or **A**.
 - To look up: press **SHIFT** and the **up arrow** key, or **W**.
 - To look down: press **SHIFT** and the **down arrow** key, or **S**.
 - To move up one level: press **Page Up**.
 - To move down one level: press **Page Down**.
 - To toggle collisions on or off: press **C**.
 - To toggle gravity on or off: press **G**.
 - To reset the model: press the **Home** key.

You can also hide a selected object, hide all other elements, zoom, and make objects transparent by selecting the object and then right-clicking it to open the menu.

Use Camera Views

You can align to specific elevation views using Camera views.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To use Camera Views:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Camera Views** ().
 - d. Select the camera angle you want to use from the options: **Front**, **Back**, **Left**, **Right**, **Top**, or **Bottom**.
 - e. To reset the model view in Camera View mode, select **Reset**.

Enable or Disable Object Visibility

Make objects in a 3D file either transparent or solid using Visibility tools.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.

4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To use the Visibility Tools:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Visibility Tools** (), and then select any of the following options:
 - To view all objects in the model as solid objects, select **Make All Objects Solid**.
 - To view all objects in the model as transparent objects, select **Make All Objects Transparent**.
 - To hide all labels in the model view, select **Hide All Labels**.

Reset Model to its Original State

If you want to discard all changes made to a 3D model, you can revert the model to its original state using the Reset Model to its Original State view.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To reset a model to its original state:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Reset model to its original state** ().

Use Object Properties to Find Objects with Object Search

Object searching makes it easier to find specific objects in models based on their properties. Saved object searches that are shared with the project can be used downstream for Clash in the Cloud processes.

With Object Search, you can:

- Create simple or complex search conditions based on object properties of the models loaded into the viewer
- Options to isolate the search results in the viewer or show found objects highlighted in the model/s
- Save the object search for re-use later
- Edit the metadata details of a saved search or its search conditions
- Use a saved object search in a clash test

Object search supports IFC and Revit models.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To perform an object search:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Object Search** ().
 - d. In the **Object Search** pane, refine your search by specifying any of the following optional details:
 - Populate the conditions for your search by selecting values from the following lists: **Property Set**, **Property**, **Operator**, and **Property Value**.
 - To modify an existing condition, select **Edit condition** ().
 - To discard an existing condition, select **Remove condition** ().

- To narrow your search by adding an AND/OR condition to the group, select **Add Condition**. For example, you can specify two properties Category of Ducts **AND** System Type of Supply Air.
 - To add a group of AND/OR conditions, select **Add Group**.
 - To save conditions of the object search, select **Save** (✓).
 - To delete conditions for an object search, select **Cancel (X)**.
 - To show objects returned in a search as isolated, select **Isolate**.
 - To show objects returned in a search with models, select **Show with models**.
6. To clear results of an object search, from the **Clear** menu, choose **Clear search conditions** or **Clear search results**.
- Even if a found object does not display in Unifier Viewer, the results count will still include the object when it matches the properties used in the search conditions.
 - If you search specifically for part objects and want to select just that part object in the viewer (rather than a composite), set the **Composite Object Selection** toggle to **off**.
 - Select the tick icon to put the condition into Presentation Mode (which uses less space). Running a search will automatically put populated conditions into Presentation Mode. You can return the condition to Edit mode by hovering over the condition and selecting .

Save, Edit, and Delete a Search

If you have permission to access models, you can save your own searches in your profile. Permissions to share your saved search criteria (or to edit or delete organization-wide or project-wide saved searches that anyone in your organization created) is determined by access rights granted to you by your administrator. Your recipients' permissions profiles determine who has access to edit or delete your saved search.

Troubleshooting Search Issues

- If no results display after you run an object search, the search found no objects that match the properties used in the search conditions. You may encounter this scenario when running a saved search made for:
 - A specific model format, for example, IFC model using IFC specific properties on another model format such as Revit.
 - A specific model discipline (for example, mechanical) on another discipline (for example, structural).
- If the results count number is higher than the found objects visible in the viewer, the search results may have returned objects without geometry that match the search conditions. Objects without geometry could be IfcProject, IfcSite and IfcBuilding.
- Some operators may be missing for specific properties in a search condition because some property types don't feature all possible operators, like Contains (for example, the Class property of the Entity property set for an IFC object).
- You may also notice operators changing if the property has a numeric value.
- The Contains operator cannot be used for numeric properties.
- "Greater than or equal to" and "Less than or equal to" are not yet available.
- If you cannot view composite objects in the viewer, toggle the **Composite Object** selection to on in the Viewer toolbar. Select Search to re-run the search.

Find Objects Using Explorer Panel

You can find or hide specific objects using the Model Explorer Panel.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To use the Model Explorer Panel:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Explorer** ().
 - d. Perform any of the following actions:
 - To filter objects, type your search criteria in the search bar next to the magnifying glass.
 - To expand search results, select **Expand All**.
 - To collapse search results, select **Collapse All**.
 - To expand and view the models returned in your search, select the drop-down nodes nested under the project name and folder.
 - To view a model or model component, double-click the file name.

Composite Objects

Composite objects are made up of individual part objects. The geometry of a composite object comes from the collection of its parts. By default, individual or part objects of composites/assemblies are selectable in the 3D model.

For example, if you select the railing of a staircase in a model, only the railing is selected if the **Composite** selection is toggled off. With the **Composite** selection toggled on, selecting the railing of the staircase will select the entire staircase.

Once a composite or part object is selected, you can view and manipulate its properties, visibility, and visual styling (for example, its transparency).

Note

This feature is most effective on IFC models.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To use the composite objects tool:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. To select composite objects, from the toolbar, select **Turn composite object selection on**.
 - d. Perform any of the following actions from the toolbar at the bottom of the viewer:
 - To zoom in, select the magnifying glass.
 - To show or hide the object, select **Show/Hide**.
 - To isolate the object, select **Isolate**.
 - To change the object's transparency, select **Apply/Remove Transparency**.
 - To make other unselected objects transparent, select **Make Unselected Transparent**.
 - To show unselected objects, select **Show Unselected**.

View Object Properties

You can use the Properties Inspector Panel to filter and view properties of your selected model. The Properties Inspector Panel shows a description of the model and given component name. Property categories available to filter include **Entity**, **Location**, and **Reference**.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.
5. To view the properties of an object in a model:
 - a. Load the model you want to view.
 - b. Navigate to the viewpoint you want to view.
 - c. From the toolbar, select **Properties** ().
 - d. To filter properties, enter search criteria in the search bar.
 - e. To run the search, press **ENTER**.

Set your Viewer Preferences for Viewing 3D models

You can use the Viewer Preferences tool to speed up model navigation and see more or less of a model.

To view 3D files:

1. Go to a project/shell tab, and switch to **User** mode.
2. Select a 3D file from your local system or
 - Select **Document Manager**, and then select **Documents**.
 - Select **Document Manager**, and then select **Unpublished Documents**.
 - Select **Tasks**, and open a business process:
 - a. Select the **Attachments** tab, and then select a 3D file attachment.
 - b. Right-click a 3D file, and then select **Open**.
3. In the **3D Files** tab, select a 3D file to open it.
4. (Optional) Perform any of the following actions:
 - To maximize and view the file, select **Fullscreen**.
 - To show or hide the files in the current folder, select **File Type** ().
 - To view the revision history, select **History**.
 - To close the 3D file, select **Close (X)**.

5. To view or modify your preferences, select **Viewer Preferences** (⚙️) in the toolbar.
 - To increase the capacity of your system resources allocation for viewing models, select **System Resources** as **Low**, **Medium**, **High**, or **Maximum**.
 - To show front and back faces, select the **Show back faces** toggle. Hides by default. By default, the back faces of surfaces are not shown so you can navigate more smoothly around a model without drawing surfaces that are not normally visible.

Some exporters are inconsistent with how their front and back faces are shown, some parts of a model may be incomplete or missing.

Note

Enabling **Show back faces** may reduce your ability to quickly navigate around a model in the viewer.

- Select your unit of measure for measuring length and distance from the **Linear** list. Choices include: **Kilometers**, **Meters**, **Millimeters** and **Feet**, **Inches**.
 - Select your unit of measure for area calculations from the **Area** list. Choices include: **Square Meters** and **Square Feet**, **Square Inches**.
6. After making changes as needed, select any of the following buttons:
 - To confirm the updated preferences, select **Apply**.
 - To revert to the previous set of saved preferences, select **Reset**.
 - To discard all updates made above and exit preferences, select **Cancel**.

Adding Images

In many forms, you can add an image to a business process, project/shell, and so on. For example, you can add an image that shows progress on the project information record or pictures of assets related to a specific asset record. You can add images to attribute forms in projects/shells, companies, and BPs. You can also use multiple images (rolling images) for a project/shell landing page.

If the Image picker functionality has been added to your project in uDesigner, forms with the functionality display the image name and a virtual box that will hold the uploaded image.

Note

The image name is based on the data element name provided in uDesigner.

To add an image to a form:

1. From the toolbar at the top of the form, select **Upload Images**.
2. Browse for the image to upload, and select **OK**. Valid image file formats are: JPG, JPEG, GIF, PNG, and TIF

You can change the image by replacing it with another uploaded image. Images display on the HTML or PDF formats of printed forms. They display in print preview as well. The Image picker can be added to all forms except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and Document Manager.

To add an image to a project/shell:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select the project/shell name.
3. In the upper-right corner, select **My Dashboard** () , and then select **Details** to open the Details form.
4. Select the **Images** tab, select **Attach Images**  , and select **Browse** or **Document Manager**.
5. Select the applicable images, and select **Save**.

Adding or Updating Hyperlinks

In many forms, you can add a hyperlink to a business process form, project/shell, and so on. For example, you can add a hyperlink to equipment documentation, details on a resource, or external websites that contain information pertinent to a business process record. You can add hyperlinks to attribute forms in projects/shells, companies, and business processes.

If the Hyperlink picker functionality has been added to your project in uDesigner, forms with the functionality display a hyperlink name, such as vendor website or internal web page.

To add a hyperlink:

1. Select the hyperlink area on the form.
2. In the Hyperlink window, enter the hyperlink name and the Uniform Resource Locator (URL).
Only the URL is required. If you enter the name and the URL, the hyperlink displays as the name you entered. If you only enter the URL, the hyperlink displays as the URL. The protocols HTTP and HTTPS are the only protocols allowed. FTP is not supported for hyperlink creation on forms.
3. Make sure that the URL adheres to accepted formats, such as starting with an approved protocol, followed by ://, and then followed by a host name or domain name.
The system validates the specified URL based on the Uniform Resource Identifier (URI) provided by the administrator for your organization, if applicable, and on current standards for URLs.

Examples of HTTP and HTTPS URLs:

`http://MyCompany.com`

`https://YourCompany.net`

Examples of URLs that might include URIs authorized for use by your administrator:

`ftp://UserName:Password@MyCompany.edu`

`ftp://private.ftp-servers.sample.com/MyDirectory/MyFile.txt`

Note

The URL should not reference the same domain that Unifier is using for operation (ask your site administrator if you do not know your domain name). If you attempt to use the same domain, a warning message will result.

4. Select **OK**.

To update a hyperlink:

1. Select the hyperlink area on the form.
2. In the Hyperlink window, select **Clear** to remove the existing hyperlink.
3. Enter a new hyperlink name and URL.
4. Select **OK**.

 Note

If you attempt to open a hyperlink to a website that is not controlled by Unifier, a Confirmation message appears and you must select **Yes** to access the external website. If the URL of the hyperlink is invalid, you will receive an error message and you will not be able to save the record until a valid hyperlink is added.

CSV File

A Comma-Separated Values (CSV) data file, or a CSV template file, enables you to import or export data to and from Unifier. Each row in a CSV file corresponds to a new record and each column is a field to be populated on the form. For more information about importing and exporting a CSV template, see [Importing Data from an Outside Data Source](#).

 Note

CSV supports all data definitions.

As an example for how the data is updated by way of a CSV file, the following explains how the data definition type of "Company Picker" (for example, a contractor's name) is updated in the CSV template. The update is applicable to both upper form and detail form data elements of the Company Picker type.

Project-level business process

When Company Picker exists in a project-level business process, the system checks to ensure that the value you had entered in the Company Picker field of the CSV template is an active and valid company. The valid values for the Company Picker are:

- Owner company
- Member companies in the shell

Company-level business process

When Company Picker exists in a project-level business process, the system checks to ensure that the value you had entered in the Company Picker field of the CSV template is an active and valid company. The valid values for the Company Picker are:

- Owner company
- All active partner companies

Note

In both cases (project and company), if the CSV template contains an invalid value, the system displays a message indicating that the company name is not a valid value for the selected data element.

Exporting a CSV File

When exporting a CSV template, the column headers display according to your **Preferences** settings.

- If you enter data for any text type DE, the data is not translated. Example: "Vendor Specialty" is a text type DE. If the User enters "Electrical Appliances" as the data, the entry is not translated according to the **Preferences** settings.
- You must not include currency and digit grouping symbols when you enter data because the information is captured as a part of header information and according to your User Preferences settings. If you enter currency and digit grouping symbols when you enter data, you receive an error message.
- Ensure that you enter the negative number format with a minus sign at the beginning of the number: Example: -10000,99 (minus 10000 comma 99). The decimal symbol is a comma
- If you enter a value in the date field, or in line items, through CSV, the values display according to your User Preferences settings.

Additional Information about Exporting a CSV File

All error messages, system, custom, or form validation, display according to your **Preferences** settings.

The file name of an exported file will not be translated automatically.

When using CSV to import (CSV Import), ensure that you do not remove any of the comments (including the instructional text) from the CSV file. Removing comments will result in import failure.

To prevent receiving error messages, do not change the contents or structure of an exported CSV file.

When comparing strings, the leading or trailing space ("white space" at the end of a line) will be ignored by the system. The following is an example. Note the presence or absence of space in the example:

- The Line Item tab name in uDesigner - " Budget Details "
- The CSV import template may have "Budget Details ", "Budget Details", or " Budget Details ".
- The system will trim the spaces if needed ("Budget Details. " the space between the period and close quotation will be trimmed and interpreted as "Budget Details") and this value will be compared with the uDesigner tab name "Budget Details".

The following lists the impacted modules:

- CSV Import for all Business Processes for record creation
- CSV Import under CM - Code and Records-based manager for record creation
- CSV Import under Planning Manager for record creation

- CSV Import under Portfolio Manager for record creation
- CSV Import under Shell Manager for record creation
- CSV Import under Space Manager for record creation
- CSV Import under User Administration for record creation
- Line Item import for Line Item creation

Exporting a CSV File with or without an Import

When you export a CSV data file from the sheet, the numeric fields display according to your **Preferences** settings (the number format options settings). The following provides additional information:

- In functionalities that allow export and import of data through a CSV file, the currency symbol and digit grouping symbol are not displayed.
- In functionalities that allow only exporting of data but not importing data through a CSV file, the currency symbol and the digit grouping symbol are displayed.
- In Unifier functionalities that allow only exporting of data but not importing data through a CSV file, the negative numbers display according to your **Preferences** settings.
- Decimal symbol display according to your **Preferences** settings.
- In functionalities, which allow exporting and importing of data through a CSV, the negative numbers, if any, displays as: -<Number, Decimal Symbol, Number> (Example: -100000,99 - The decimal symbol is comma)
- If there are any date fields, the dates are formatted based on your **Preferences** settings.

Importing a CSV Template Data File

If importing a CSV data file (Example: Importing Column details), the column data appears according to your **Preferences** settings.

- You do not need to enter the Currency symbol manually because the symbol is included in the header. Entering the Currency symbol manually generates an error message.
- When importing a CSV file is complete, the number formatting displays according to your **Preferences** settings.
- When importing a CSV file is complete, the date formatting displays according to your **Preferences** settings.
- Oracle recommends that you use custom data elements for defining queries for a data picker filter condition. You can use the auto-populate to get the shell name or other shell properties populated on the record for the required custom data element.

Note

Oracle recommends that you use custom data elements for defining queries for a data picker filter condition. You can use the auto-populate to get the shell name, or other shell properties, to get populated on the record for the required custom data element.

List of Impacted Sheets and Modules

The following is a list of impacted sheets and modules:

- Cost Sheet
- Funding Sheet
- CM sheet
- Generic Cost Sheet
- Planning Sheet
- Summary Fund Sheet
- Summary Budget
- CBS Details
- Column Details
- Data Definitions (DDs) export

List of Modules Only Impacted by Exporting

In Unifier, functionalities that allow only exporting of data but not importing data through a CSV file, the column headers and the Data Element (DE) labels display according to your **Preferences** settings. The following shows a list of modules impacted by exporting, only:

- Basic data definitions under Data Structure Setup
- Cost Codes under Data Structure Setup
- Data Elements under Data Structure Setup
- Data Picker under Data Structure Setup

Importing Data from an Outside Data Source

The Unifier integration feature imports data from an outside data source. Using this feature, you can import data from an outside application, such as an accounting system, and thereby, create records and line items. Importing is most effective in cases where you want to populate Unifier with a large amount of information that exists in the other system.

This section discusses importing data using CSV files. You can use CSV files to create records and line items for business processes and most of the Unifier managers. It is largely useful for transferring a company's legacy data.

After you have edited and saved the CSV file, you can import it back into the system to create the new records or line items. During the import process, the system validates the data. If the data passes validation, the new records or line items will be created. If the data fails the validation, you can view or download a text file summarizing the errors, and locate the erroneous records in the csv file.

To use this feature, the business process or manager must include an integration interface that was designed in uDesigner. Separate integration interfaces are designed for each BP or manager, each specifying what fields will be populated when the new records or line items are created.

Note

New records can also be created by XML integration via Web Services. For more information about Web Services integration, refer to the *Unifier Integration Interface Guide*. XML integration via Web Services must be coordinated with Primavera Unifier Consulting Services.

The integration interface feature supports:

- Cost BPs
- Line Item BPs
- Simple BPs
- Text BPs
- Document BPs
- Code and Records-based configurable manager classes
- Planning Manager planning items
- Shell Manager shells
- Shell creation BPs

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager
- Business processes (BPs)
- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact.

Depending on the location of the infected file, the system might display a bug icon  (if

the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).

- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later.
For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.
- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

Overall Steps for Importing Data

Here is an overview of the steps involved in importing data from CSV files to create new records and line items.

1. **Export the CSV template file to your machine.**

The CSV file contains the correct integration structure, with each row corresponding to a new record, and each column a field to be populated on the form.

2. **Modify the CSV file.**

Add new record data into the template CSV file, one record per row.

3. **Import the modified CSV file.**

After completing the CSV file, you can then import it back into Unifier to create the new records or line items. During the import process, the system validates the data. If the data passes validation, the new records or line items will be created. If the data fails the validation, you can view or download the CSV file with the error summary.

Note

The import process runs in background, allowing you to continue your work during the import and validation process. The amount of records being imported will affect the processing time. You will be notified by email after the process is complete and the records have been imported or errors have occurred.

Exporting the CSV Template to Your Machine (Integration)

To export an integration template:

Note

To prevent receiving error messages, do not change the contents or structure of an exported CSV file.

1. Display the toolbar with the **Export** button using the table below.
2. Select **Export Template**, and choose **CSV**.
3. Save the CSV file to your local drive.

To display the toolbar for this:	Do this:
A business process at the company level	Select the name of the BP wherever it resides in the Navigator: in the Company Logs node, the General log node, or Data Manager log node.
A business process at the project/shell level	Select the name of the BP wherever it resides in the Navigator: in the Project Logs node, the General log sub-node of the Information node, or the Data Manager log node.
A planning item	In the Planning Manager node of the Navigator, select the planning item.
A class for a Code and Records-based configurable manager	In the [Manager] node of the Navigator, select the class.

When comparing strings, the leading or trailing space ("white space" at the end of a line) will be ignored by the system. The following is an example. Note the presence or absence of space in the example:

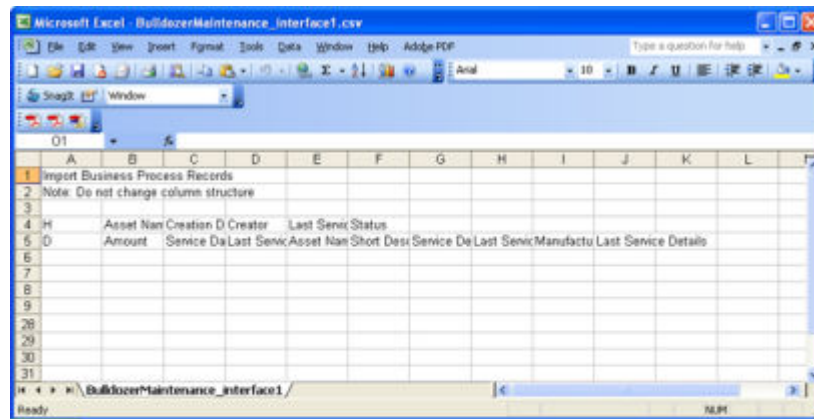
- The Line Item tab name in uDesigner - " Budget Details "
- The CSV import template may have "Budget Details ", "Budget Details", or " Budget Details ".
- The system will trim the spaces if needed ("Budget Details. " the space between the period and close quotation will be trimmed and interpreted as "Budget Details") and this value will be compared with the uDesigner tab name "Budget Details".

Editing the CSV File

Each row in a CSV file corresponds to a new record, and each column is a field to be populated on the form.

To edit the CSV file:

1. Open the CSV file in Microsoft Excel or a compatible application, such as a text editor or Notepad.



The letter **H** in column A indicates that this row is for upper form data. The row shows the names of the fields from the **upper form** that were specified when the integration interface was designed in uDesigner.

The letter **D** indicates that this row is detail form data. The row shows the names of the fields from the **detail form** that were specified when the integration interface was designed in uDesigner.

2. To add header (upper form) data to the file:
 - a. Move your cursor to an empty line and type an **H** in column A.
 - b. Press the **Tab** key to move to the next column and enter the value that you want to import for that field.
 - c. Repeat step **b** for all the fields in the row.
3. To add detail form data to the file:
 - a. Move your cursor to an empty line and type a **D** in column A.
 - b. Press the **Tab** key to move to the next column and enter the value that you want to import for that field.
 - c. Repeat step **b** for all the fields in the row.
4. If you have additional line item data that needs to be imported, repeat step **3** and its sub-steps until you have entered all the line items you want to import.
5. Save the file.

Importing CSV File into Unifier

After you have edited and saved the CSV file, you can import it back into Unifier to create the new records or line items. During the import process, the system validates the data. If the data passes validation, the new records or line items will be created. If the data fails the validation, you can view or download a text file summarizing the errors.

To import the file:

1. Display the toolbar with the **Import** button as shown in the table below.
2. Select **Import**.
3. In the **File Upload** window, fill in the fields, and select **OK**.
The system checks the import process to verify that valid records were created. Specifically, it validates that:
 - The import file format matches the integration interface design that was created in uDesigner.

- The imported data is for the correct BP (that is, that the data was imported into the same log as that from which you exported the CSV template file).
- The imported data is correct; that required fields contain data in the correct format, the data type is correct, the correct values were added for drop-down lists, and so on.

To display the toolbar for:	Do this:
A business process at the company level	Select the name of the BP wherever it resides in the Navigator: in the Company Logs node, the General log node, or Data Manager log node.
A business process at the project/shell level	Select the name of the BP wherever it resides in the Navigator: in the Project Logs node, the General log sub-node of the Information node, or the Data Manager log node.
A planning item	In the Planning Manager node of the Navigator, select the planning item.
A class for a Code and Records-based configurable manager	In the [Manager] node of the Navigator, select the class.
A Master Rate Sheet in the Company Workspace tab	In User mode, select the Master Rate Sheet node in the left Navigator, select the Master Rate Sheet (right pane), and from the gear menu, select Open. For more details, see the <i>Unifier Earned Value Management User Guide</i> .

Using CSV File to Import Attachments

You can use a CSV template file to import attachments into Unifier, when you are creating a BP Record, or Line Item.

Note

To prevent receiving error messages, do not change the contents or structure of an exported CSV file.

Example

There are 20 line items in a single record (Line Item type BP) and each line has an attachment. You can use a CSV template to include the names of all the attachments (for that single record) and import, or upload, all the attachments into Unifier.

For details on how to import a CSV file back into Unifier, see [Importing CSV File into Unifier](#).

The last column of the CSV template is a placeholder for the file names of the attachment (the file that you want to attach to the BP Record, or Line Item). If you have more than one file to attach, you can enter the names of each attachment separated by a colon (:), for example, Attachment1.pdf:Attachment2.pdf:Attachment3.pdf.

If you enter the same name in the Attachment cell twice, the system ignores the duplicate and only uploads a single file.

If there is no data in the placeholder column of the CSV template file that is getting uploaded, the system processes the CSV template upload as a file without any attachment.

If you keep two attachments with the same name in the CSV file, the system attaches the same two attachments to all the Item Lines referencing that name.

If you upload a file twice, the system overwrites the attachment that is present in the review section.

The Attachment section of the CSV upload wizard lists attachments that are ready for upload (Ready to be uploaded). As you keep uploading the attachments on the Attachment section, the status of the files keep changing to Ready to be uploaded.

Note

For security, the Company Administrators can use the **Security** tab on the **Company Settings** page to specify the type and size of files that can be uploaded by users and per company policy. Contact your Company Administrator for more information.

When comparing strings, the leading or trailing space ("white space" at the end of a line) will be ignored by the system. The following is an example. Note the presence or absence of space in the example:

- The Line Item tab name in uDesigner - " Budget Details "
- The CSV import template may have "Budget Details ", "Budget Details", or " Budget Details ".
- The system will trim the spaces if needed ("Budget Details. " the space between the period and close quotation will be trimmed and interpreted as "Budget Details") and this value will be compared with the uDesigner tab name "Budget Details".

Upload CSV and Add Attachments

When the Upload CSV wizard opens, you can select the file manually (Add) or choose to drag the file onto the page. After uploading the CSV file, select **Next** to go to the **Add Attachments** page.

Note

After you upload the required files, the status of each file changes to **Ready to be Uploaded**.

For BP Record import

- The system does not check whether the file attachment is allowed (set on the integration form) for the BP Record.
- If there are files referenced in the Attachments column of the CSV file, but the files are not uploaded in the **Add Attachments** section, the system provides two options:
 - Select OK if you want the system to ignore the files referenced in the Attachments column of the CSV file. The system creates the BP Record without the attachments.
 - Select Cancel to navigate back to the CSV file and upload the attachments.

Note

Oracle recommends that the total number of line items included in the CSV file not to exceed five thousand (5000), for better performance.

For Line Item import

- The system does not check whether the file attachment is allowed (set on the integration form) for the Line Item.
- If the CSV file upload is restricted for the Line Items tab, the system disables the Upload Attachments and you can upload the CSV file.
- If there are files referenced in the Attachments column of the CSV file, but the files are not present in the Attachment upload, the system provides two options:
 - Select OK if you want the system to ignore the files referenced in the Attachments column of the CSV file. The system creates the Line Item without the attachments.
 - Select Cancel to navigate back to the CSV file and upload the attachments.

The CSV file attachment process starts when you select Upload, in the Add Attachments window. If there are any validation errors, the system displays a pop-up window after you select Next on the Upload CSV page window.

For Document-type BP

- The system only processes the attachments referred to at the Line Item level (D level in the CSV file).
- If you reference an attachment at the BP Record level (H level in the CSV file), the system ignores the attachment that is available on the Attachments window of the CSV upload wizard.

For Text-type BP

- The system ignores all attachments included in the CSV file and the attachments do not appear on the Attachments window of the CSV upload wizard.

Blocked file extension

The system prevents uploading of file attachments with blocked extensions, as configured by your Site Administrator (System Administrator).

Audit log

- If a CSV import of a BP record occurs, if an attachment is uploaded during creation, the system does not audit the attachment.
- If a CSV import of a Line Item occurs, the system does not audit the attachment.

Internationalization and CSV Files

Importing and exporting data can be done by using a Comma-Separated Values (CSV) data file or a CSV template file. This section explains how the availability of different languages (Internationalization) impact the various CSV files created, used, imported, or exported.

Note

Number formatting is not supported for Symbols that are based on a right-to-left language such as official languages of Afghanistan or Hebrew.

Generic CSV files

Language preferences are detected from the **Preferences** settings (**Region Format**), for both CSV data files and CSV template in:

- All column headers
- All informational text

If importing a CSV file fails, the import error file displays the system generated error messages in the preferred language.

If importing a CSV file fails because of form validation errors, the custom error message displays the message in the preferred language.

① Note

- If translation is not available for a custom error message, the source string is displayed.
- Before importing a CSV file, always check the **Preferences** settings to see the allowed format and number formatting.
- When importing, or exporting, a CSV file, the date format follows the **Preferences** window (**Region Format**) Date Format settings.

Additional information about exporting and importing CSV files

When importing and exporting of a CSV file is conducted by users with two different language settings (for example, French and German), the data entered into an exported file must match the original language set.

Example

The CSV template Export has been done in French and the template is being used by a German User. If the German User enters data without changing the column structure and Imports the file, the Import action will fail and an error message will appear in German, indicating the error.

Internationalization and Web Services

About Web Services

New records can be created and line items can be added using Integration through web services. Also, the Schedule Manager, which was deprecated starting with version 23.5, integrates with Primavera scheduling software by way of web services, which lets you update existing schedule sheets.

As Project Administrator, you can receive email notification of the successful creation of a shell instance, for shells that are created manually through web services, a CSV file upload, or through auto-creation. This notification can be set up in email notifications in uDesigner. Also, you can set your **Preferences** to control whether you receive these notifications.

Web Services and Internationalization

The output data generated by web services is always in the source language.

Note

If a record (Example: Business Process) is created by using web services and the Data Definition (DD) label includes a non-ASCII string, the record creation will fail.

Number formatting of data

When you enter numeric data in XML, you can only use the decimal point (period) and negative sign (dash).

Examples

XML Tag: <Committed_Amount>100.99</Committed_Amount>

XML Tag: <Credited_Amount>-1423.99</Credited_Amount>

Sample JSON request

```
"data": [  
  {  
    "uuu_quantity": 6000.258,  
    "amount": -27600.0,  
  }  
]
```

When you run a Get call, the input content in the response XML or JSON will be in the language of the source strings.

Get Web Services

You can use the Get Web Services call methods to get various attributes of Shell, CBS, and the list of Business Process records, Shells, and User defined data.

When you run a Get call, the input content in the response XML will be in the language of the source strings.

Number formatting does not apply to the numeric data and the decimal point is a period. The negative numbers are displayed with the minus sign before the numeric data, for example, -12345.99.

Note

Number formatting is not supported for Symbols that are based on a right-to-left language such as official languages of Afghanistan or Hebrew.

Searching and Finding in Unifier

You can use the **Search** and the **Find on Page** options to search for specific items in:

- Business Processes
- Manager sheets
- Pickers

You can also use the **Search** and the **Find on Page** options to search for a design in uDesigner.

When you use the **Search** and the **Find on Page** options, the system narrows the list of items shown on a sheet, or picker, to match the search criteria you specified.

The **Search** and the **Find on Page** options show fields from the sheets, or pickers, that you can use to narrow the list of items you see. For example, for pickers with extensive lists, this can make completing the business process form much quicker.

The fields that appear in the **Search** and the **Find on Page** options are usually specified in uDesigner when the forms are designed for the business processes, managers, and pickers.

Note

Some logs, such as the Mail logs, use "canned" **Search** and **Find on Page** windows because these logs are not designed in uDesigner.

Searching and Finding: Search Option

The **Search** option lets you search specific elements of a business process (BP), BP log, sheet, picker, and so on. Upon selecting **Search**  in the toolbar menu of a BP, BP log, sheet, or a picker, the **Search** window is displayed. You can move the window around the right pane in a horizontal or a vertical motion depending on if the window is docked at the bottom or to the right. The **Dock Right/Dock Bottom** option allows you to adjust the positioning of the window.

This **Search** window contains advanced search features that change depending on the function that you are working in. Unlike the **Find** window in Classic View, the **Search** window does not have a **Save** option that allows you to save your search. When you modify the previous search fields, you can select **Apply** to save those modifications. The **Clear** option resets the search fields back to their default values.

Similar to the previous **Find** window, the search fields often contain changeable operators, like "contains" or "equals," which you can use to further specify the items you want to see.

Like Classic View, some of the search fields contain **Select** drop-down lists where you can choose from a list of values. Some of these lists allow you to select multiple values as you select the items. If you select multiple values, the search will contain results that match any or all the values that you selected.

If you are searching a BP log, you can also use the wildcard characters percent (%) and underscore (_) to refine your search. The percent character represents any number of characters, including letters, spaces, numbers and so on; the search returns all results that contain the search string. The underscore character represents one character.

Searching and Finding: Find on Page Option

The **Find on Page** option enables you to find specific elements of a BP, sheet, picker, and so on. Upon selecting **Find on Page**  in the toolbar menu of a BP, sheet, or a picker, a new row is created within the log. Unlike the **Search** option, the **Find on Page** row appears at the top of the log and therefore cannot be moved.

This **Find on Page** row contains search fields that change depending on the function that you are working in. Unlike the previous **Find** window in Classic View, The **Find on Page** row does

not have a **Search** option that initiates the searching process. Instead, the searching process begins immediately upon entering information into the search fields in the row.

Unlike the previous **Find** window, the search fields do not have changeable operators, like “contains” or “equals.” Similar to the **Search** option, **Find on Page** also does not have a **Save** option that allows you to save your search.

When you enter information into the search fields, any matching results are highlighted and displayed in the log. To restore the log to its original state, clear the search fields by deleting the entered information.

Searching and Finding a Shell

Since shell hierarchies can be extensive, you can use the **Search** () feature to locate specific shells.

You can search for a shell by using either the **Geocode Search** parameters or the **Shell** parameters.

To search for a shell by using the **Geocode Search** parameters:

1. Go to the home dashboard of the shell (anchor shell) that contains the shell you want to find (the top node in the left Navigator).
2. Select the **Workspaces** tab.
3. From the toolbar in the left pane, select **Search** () to open the **Search** window. The Search window has the following options:
 - **Clear**
 - **Apply**
 - **Dock Right / Dock Bottom**
 - **Close**
4. Scroll down and enter values in the fields under the **Geocode Search** section. Select an address or a latitude and longitude.
 - In the **Address** field, enter a full or partial address for the shell.
 - In the **Latitude** and **Longitude** fields, enter the values, if you know them.

If you do not know the latitude and longitude, you can select the **View Map** option (Coordinates) to open the **Geocode (Latitude/Longitude) Picker** window.

- Select the **Address, City, State, Country, Postal Code** field and enter a full or partial address.
 - To see the location on the map displayed in the window, you can select the **Map It** option. The system fills in the **Decimal Degrees** for the latitude and longitude as well as the **Degrees, Minutes, and Seconds**. The **Map It** option is also available for **Decimal Degrees** and **Degrees, Minutes, and Seconds**. To clear the fields, select the **Clear** option.
 - Select **Done** to go back to the previous **Search** window. The system fills in the **Latitude** and **Longitude** fields in the **Search** window.
 - In the **Search** window, you can enter a value in the **Radius** field to specify a search radius surrounding the address or latitude and longitude coordinates.
5. When finished, select **Apply**.

6. When you finished finding the shell, select **Cancel Search** at the bottom of the log to return the dashboard to normal view.

To search for a shell by using the **Shell** parameters:

1. Go to the home dashboard of the shell (anchor shell) that contains the shell you want to find (the top node in the left Navigator.)
2. Select the **Workspaces** tab.
3. From the toolbar in the left pane, select **Search** () to open the **Search** window. The Search window has the following options:
 - **Clear**
 - **Apply**
 - **Dock Right / Dock Bottom**
 - **Close**
4. Enter values in the fields under the **Shell** section.
For all the fields in the **Shell** section, you can change the "contains" and "equals" values to: does not contain, equals, does not equal, is empty, and is not empty, respectively.
5. When finished entering values, select **Apply**.
6. When you finished finding the shell, select **Cancel Search** at the bottom of the log to return the dashboard to normal view.

Search

ClearApply

☰✕

▼ Shell

Region ID

contains▼

Region Name

contains▼

Hierarchy Path

contains▼

Status

equals▼

Select

▼ Geocode Search

Co-ordinates

📍

Address

equals▼

Latitude

equals▼

Longitude

equals▼

Searching in Managers Logs

Most manager logs, including **Configurable Modules** logs, display a static **Search** window to enable you to find information. For more information, see [Searching and Finding: Search Option](#).

The **Document Manager** and **Shell** work differently and are explained separately. See the following sections for details:

- [Searching and Finding a Shell](#)
- [Searching in Document Manager Node](#)

In most manager logs, you will be searching for **Sheets**.

The following managers use the Classic **Find** button:

- **Resource Manager**

- **Schedule Manager**

To search in most manager logs:

1. Go to the **Company Workspace** tab or the project/shell tab where the manager resides.
2. In the left Navigator, select the manager grouping node you want to search. The manager expands to list functional sub-nodes.
3. If there are functional sub-nodes in the left Navigator, select the functional sub-node you want to search.
4. From the toolbar, select **Search**.
The system displays a **Search** window. The window will display different fields, depending on how the manager has been designed.
5. Enter your search criteria, and select **Apply**. The system displays all the items that meet the search criteria you entered.

Searching in Document Manager Node

For more information on searching, see Searching Content.

Searching in Document Manager Sub-Nodes

You can access the **Document Manager** grouping node from:

- Project (User mode)
- Company Workspace (User mode)

In both the Company Workspace and the project (User mode), the **Document Manager** grouping node contains the following functional sub-nodes:

- Documents
- Recycle Bin
- Unpublished Documents

The following applies to the search and find features in both project and Company Workspace **Document Manager** functional sub-nodes.

Search

The **Search** window enables you to search for document properties or contents.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to display the **Documents** log.
3. From the toolbar, select **Search** () to open the search window. The **Search** window enables you to search for document properties or contents. Some of the options are:
 - Content
 - Linked Records
 - Name
 - Title
 - Description

Find on Page

Use **Find on Page** to narrow your search in the records displayed within the log.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to display the **Documents** log.
3. From the toolbar, select **Find on Page** to open a new row in the table (log columns) within the **Documents** log.
4. Enter values in the fields to narrow your search in the records displayed within the log.

Supported Documents

The following is a list of supported documents for content search:

- Microsoft Word Document (.doc/.docx)
- Microsoft Excel Document (.xls/.xlsx)
- Microsoft PowerPoint Document (.ppt/.pptx)
- Microsoft Project (.mpp)
- Rich Text Format (.rtf)
- Adobe Portable Document Format (.pdf)
- Hypertext Markup Language (.html)
- Extensible HyperText Markup Language (.xhtml)
- Plain Text files (.txt, .java, .bat, and so on)
- Document formats supported by Apache Tika 1.3

Indexing and Content Search

The following contains general information about indexing and content search:

Unifier uses Lucene StandardAnalyzer 2.9.3 to index and search the documents.

The following contains examples, and a brief explanation, of how a document or phrase is indexed and searched:

- If a document contains the sentence "The quick brown fox jumped over the lazy dog," it will be stored in index using the tokens: [quick] [brown] [fox] [jumped] [over] [lazy] [dog]. When you search for the string, "fox," the document will be found.
- If a document contains the sentence "server.local.port=7001," it will be stored in index using the tokens: [server.local.port] [7001], so if you search for the string, "server," the document will not be found. In this case, you must search for the string, "server.local.port" to get this document in the search results.

The phrase "XY&Z Corporation - xyz@example.com" will be indexed as [xy&z] [corporation] [xyz@example.com].

In case of xml files, only the *element content* will be indexed. The tag and attribute value will not be indexed and cannot be searched. See the following example:

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!-- in the project's Project Properties dialog box.-->  
<project name="Unifier913" default="default" basedir=".">  
<description>Builds, tests, and runs the project Unifier913.</description>  
</project>
```

In the example above, the xml file will be indexed as [builds] [tests] [runs] [project] [unifier913]. If you search for the string, "description," then the document will not be returned, but if you search for the string, "project," you will get the document since the string "project" is a part of the *element content*.

The indexing background job is scheduled to run every 15 minutes. The documents added to Document Manager are available for search every 15 minutes after being added.

Note

In the case of Unpublished documents, only the attachments will be searched. The record information PDF will not be searched.

Document Index Migration

After the server is restarted, the indexer job starts re-indexing for all the documents to migrate the index from Lucene 2.9.3 to Lucene 4.0 format.

Note

The re-indexing job takes 2 to 3 days to complete, depending on the number of files that need to be re-indexed. If you conduct a document search during the re-indexing job, you may receive an error message asking you to wait until the job is completed.

Searching Date Fields

The floating Find window provides comprehensive search criteria for date fields. If the date field on the Find window includes an operator, you may have the option of making the search relevant to today's date.

For example, for a date field, such as a Payment Due Date, you could specify that the value in the field should be greater than or equal to the date you pick from the calendar, today's date, or today's date, plus or minus the number of days entered in the **Days** field.

Another example might be that the value in the field should be between today's date and today's date, plus or minus the number of days entered in the **Days** field.

Floating Find windows display search results that include a banner across the top of the window. This banner indicates that the list has been searched, or filtered. To restore the list of records to its unfiltered state, select Cancel Filter in the banner.

Searching Mailbox Log, Notifications Log, and Sent Items Log (Home Tab)

In the **Home**  tab, you can access the following functional nodes:

- **Inbox**
- **Notifications**
- **Sent Items**

For more information, see the following descriptions and see [Home Tab \(Home Workspace\)](#).

Inbox

To search the **Inbox**, select the **Inbox** functional node, and in the Inbox log, select **View**. The **View** list enables you to search in the Inbox by adjusting the log view and using the following options:

- Received in last 7 days
- Received in last 30 days
- Group by Origin
- Group by From
- All Items

You can use **Search**  to open the Search screen and determine the values for the columns in the Inbox log by:

- Field
- Operator
- Value

The Search screen also enables you to determine the number of records that you want to be displayed on the Inbox log.

The right side, next to the Inbox log, shows the contents of the email that is highlighted on the log.

Notifications

To search the **Notifications**, select the **Notifications** functional node, and in the Notifications log, select **View**. The **View** list enables you to search in the Notifications by adjusting the log view and using the following options:

- Received in last 7 days
- Received in last 30 days
- Group by Business Process
- Group by Origin
- All Notifications

You can use **Search**  to open the Search screen and determine the values for the columns in the Inbox log by:

- Field
- Operator
- Value

The Search screen also enables you to determine the number of records that you want to be displayed on the Notifications log.

The right side, next to the Inbox log, shows the contents of the email that is highlighted on the log, if you have permission to view.

Sent Items

To search the **Sent Items**, select the **Sent Items** functional node, and in the Sent Items log, select **View**. The **View** list enables you to search in the Sent Items by adjusting the log view and using the following options:

- Sent in last 7 days
- Sent in last 30 days
- Group by Origin
- Group by To
- All Items

You can use **Search**  to open the Search screen and determine the values for the columns in the Inbox log by:

- Field
- Operator
- Value

The Search screen also enables you to determine the number of records that you want to be displayed on the Sent Items log.

The right side, next to the Inbox log, shows the contents of the email that is highlighted on the log.

Searching Sheets

Most manager sheets will have a **Find on Page** button () to search for data within the individual columns of a sheet.

To search a sheet:

1. Open the sheet.
2. Select **Find on Page**. Find fields appear above each column.
3. For each column you would like to search, enter the value you are looking for in each Find field. If the system finds the value, it will highlight the value on the sheet and hide all rows that do not contain that value.

Searching Pickers

Most pickers include a Find feature with which you can locate specific objects (codes, assets, business processes, users, shells, and so on) while you are working on a form or a sheet . When you use this Find feature, the system narrows the list of items shown on the picker to match the search criteria you specified. For pickers with extensive lists, this can make completing the business process form much quicker.

Some pickers display static Find windows; others display floating windows like the Task and business process logs (however, without the "save search" feature).

For most pickers, the Find feature works as generally described under [Searching and Finding: Search Option](#) and [Searching and Finding: Find on Page Option](#); however, the User/Group Picker works differently.

Note

- Fund Pickers are most often searchable by the fields that were created for the Fund Attribute Form in uDesigner. However, if no attribute form was created for the fund, you can search for the fund by its name or code.
- Pickers that include CBS codes display information generated from a sheet (the cost sheet or an SOV). Consequently, the Find feature on the CBS Picker, Commit Line Item Picker, and SOV Picker works the same way as it does on manager sheets. For instructions on using these pickers, see [Searching Sheets](#).

To find a user in the User/Group Picker:

1. Open the User/Group Picker.
2. The **List Names from** field shows the project/shell or company from which the users' names will come. (This field is editable only by your Company Administrator.)
3. Use the **Show By** field to restrict the search to users only, to groups only, or to both.
4. In the **Search for** field, enter a name or partial name.
5. Select **Search**.
The system uses the filters at the top of the Find window and searches the picker list according to the project/shell, or company specified in the List Names from field, as well as the **Show By** option you specify (users, groups, or both).

The system displays on the picker the names that met the search criteria you entered, and also displays above the list this line: **Current View: <filtered by ...> [Cancel Filter]**.

Note

If you choose to, you can cancel the search action by selecting [Cancel Filter]. The system will restore the picker list.

User/Group Picker and type-ahead

In the "To" or "Cc" fields (mail recipients) or in the Edit Permissions (log level) and other fields (where user and groups are both supported), when you enter a value the system includes both users and groups:

- If a user is displayed in the type-ahead, the name is prefixed with the user's profile.
- If a group is displayed in the type-ahead, the name is prefixed with the group icon.

Example

"Enter a <Display Element's column name> ..."

In the unlikely case of display element not being present in the log, the placeholder text will be "Enter a <Display Element label>..."

Internationalization

The process of adapting Unifier services to specific local languages and cultures:

The following topics explain the process of planning and implementing Unifier services so that they can be adapted to specific local languages. These services include:

- Email notifications
- Tools
- Oracle Analytics Server Custom Reports
- Dashboards
- Help files
- Spell check
- Date and time zone formats
- Audit log

Internationalization (Email Notifications)

When the system generates an email notification, the language used for that email is based on the recipient's **Preferences**.

Email notifications for scheduled User-Defined Reports (UDRs), Gates, and so forth, have two components:

- Text
- Attachments

If a Business Process (BP) email notification contains an attachment with the record information, the Custom Strings and number formatting in the attachment is according to the **Preferences**.

If a scheduled UDR is sent as a part of an email attachment, the language in the PDF attachment is according to the **Preferences** of the UDR owner; however, the email text content is according to the recipient's User Preferences.

When a UDR is generated manually and saved by a User, the language in the PDF attachment is according to the **Preferences** of the User who generated, or ran, the UDR.

If a scheduled job such as Project Gates, where the "Auto-email as PDF attachment to users and groups" option is selected, the language in the PDF attachment is according to the User Preferences of the creator of the job (Project Gates creator).

When a manual refresh of the Gates is requested, the language in the PDF attachment is according to the **Preferences** of the User who requested the refresh.

Internationalization (Support for Tools)

When used within the system, the following tools support internationalization:

- Oracle Map
- AutoVue Server

- Flex replacement (O charts)

Note

The Unifier Plug-ins do not support internationalization.

Oracle Map viewer supports internationalization for Tier 1 languages. For more information, refer to the *Oracle Fusion Middleware User's Guide for Oracle*.

The language displayed in the map, and the following subsequent areas, is according to the language selected in the **Preferences** of the user:

- View map for BP records from log
- Shell Landing Page
- Map Picker in Log Find
- Map Picker in Bulk Edit
- View Map when invoked from the BP record

Note

eLocation services, which is used for geocoding, does not support internationalization. As a result, the map labels are displayed in English. If a user enters a label in a different language, the Find feature does not provide the desired results.

Internationalization (Oracle Analytics Server Custom Reports)

The Oracle Analytics Server Reports support internationalization as follows:

Custom Report (Report File tab) window

If there are no templates available for the report, the Custom Report window (Report File tab) displays according to the default settings.

To upload the translated XLIFF files and report layout, select **Add** to open the Add Template and Files window, enter data in the required fields, and select **OK**.

Note

- The non-RTF templates do not support internationalization.
- You can only change the template type when the template is in Creation stage. After you create a template, you cannot change the template type. Use the report designer to create a template with the desired template type and remove the template that is no longer needed.

In the Custom Report window (Report File tab), the only editable column is the Default column, which lets you set the default template by selecting the corresponding template.

Note

The system sets the first template, or XLIFF file, that you upload as the default template.

Use **Modify** in the Custom Report window (Report File tab) to modify an existing template. After you select Modify, the Modify Template and Files window opens, which lets you modify the template and the translated XLIFF file for that template. When finished, select **OK**.

Use **Download** in the Custom Report window (Report File tab) to download a template and the corresponding translated XLIFF file, in a zip file.

External Data Model Oracle Analytics Server Reports

If you want to download the data model of a template, select the template, and select **Download** in the Custom Report window (Report File tab). When the download is complete for an Oracle Analytics Server report, the data model is included.

Non-RTF type template

Oracle Analytics Server supports RTF templates and XLIFF files. If the report designer selects a non-RTF type template, the Browse option in the Modify Template and Files window (Translated XLIFF files for the Template section) will be disabled.

Custom Report (Query tab) window

Queries based on Data Definition (DD) support internationalization and number formatting associated with internationalization according to the **Preferences** settings.

Queries based on Data Views do not support internationalization and formatting because raw data is being used.

Queries based on Ad-Hoc support internationalization and number formatting associated with internationalization according to the **Preferences** settings.

Internationalization (Dashboards)

Shell Dashboards

The Shell Dashboards support Internationalization and number formatting for System Strings as well as Custom Strings according to the **Preferences** settings.

Internationalization (Help Files)

Unifier Help files do not support Internationalization and are not translated.

Note

You can translate the Help files using a third-party translator and display the files based on your **Preferences** settings. This includes uploading a single PDF with multiple language help information.

Internationalization (Spell Check)

The Spell Check feature does not support Internationalization.

Note

If the language selected in your **Preferences** is not English, the Spell Check option will not be available.

Internationalization (Date and Time Zone Formats)

Date formats

The following additional date formats support Internationalization:

- MM/DD/YYYY
- DD/MM/YYYY
- MM/DD/YY
- DD/MM/YY
- MM-DD-YYYY
- DD-MM-YYYY
- MM-DD-YY
- DD-MM-YY
- DD.MM.YYYY
- YYYY-MM-DD
- MMM/DD/YYYY
- DD/MMM/YYYY
- YYYY/MMM/DD
- M/D/YYYY
- M/D/YY
- D/M/YYYY
- D/M/YY
- YY/M/D
- YYYY/M/D
- YY/MM/DD
- YYYY/MM/DD

Time Zone formats

The Time Zone setting is based on the Coordinated Universal Time (UTC) and supports Internationalization.

Note

The time format for all dates is: HH:mm AM.

Internationalization (Audit Log)

Within the Audit log, the following columns support Internationalization according to the **Preferences**:

- Event
- Description
- Field

System and custom strings can be translated for Event, Description, and Field columns.

P6, Unifier, and Gateway

Unifier uses the **Rate Sheet** object in Gateway, with canned fields, for connecting Rate Sheet with P6.

An out-of-the-box (OOTB) Unifier Object, "Rate Sheet" (in Gateway), contains all the canned fields present under the **Master Rate Sheet** in Unifier.

Gateway Data Dictionary

The following objects, in Gateway data dictionary, support the integration:

- **P6Resource**
- **P6ResourceRate**
- **P6Role**
- **P6RoleRate**

Each of these objects are explained in the following tables:

P6Resource

Note

P6Resource exists in Gateway only, and it is not deployed through Unifier.

Field	Type	Description
uuu_resc_parent_id	ForeignKey	Resource Parent ID
uuu_resc_short_name	String	Resource short name
uuu_resc_name	String	Resource Name
uuu_resc_status	String	Resource Status
uuu_resc_curr	String	Currency

P6ResourceRate**Note**

P6ResourceRate exists in Gateway only, and it is not deployed through Unifier.

Field	Type	Description
ResourceObjectId	Foreign Key	Resource object ID to map the rate
effective_date	String	effective date for the rate
standard_rate	String	price per unit

P6Role**Note**

P6Role exists in Gateway only, and it is not deployed through Unifier.

Field	Type	Description
uuu_role_parent_id	ForeignKey	Role Parent ID
uuu_role_short_name	String	Role Code
uuu_role_name	String	Role Name
uuu_role_status	String	Role Status

P6RoleRate**Note**

P6RoleRate exists in Gateway only, and it is not deployed through Unifier.

Field	Type	Description
RoleObjectId	Foreign Key	Role object ID to map the rate
standard_rate	String	price per unit

Gateway Field Mappings

The following out-of-the-box (OOTB) field mapping templates are in Gateway to support the integration:

Mapping	Type	Flow Type	Unifier Object	Gateway Object	P6 Object
Sync Resource data from P6 for EVM	Both	Master Data	P6Resource (New)	Resource	Resource
Create Resource Rate from P6 for EVM	Create	Master Data	P6ResourceRate (New)	Resource Rate	Resource Rate

Mapping	Type	Flow Type	Unifier Object	Gateway Object	P6 Object
Sync Role data from P6 for EVM	Both	Master Data	P6Role (New)	Role	Role
Create Role Rate from P6 for EVM	Create	Master Data	P6RoleRate (New)	Role Rate	Role Rate

Resource Data from P6

A mapping template is created to map the fields of **Resource** object in P6 to **P6Resource** object in Unifier. The following is used for creating/updating a new Rate Sheet:

Unifier Field Name	Gateway Field Name	P6 Field Name
uuu_resc_parent_id	ParentObjectId	ParentObjectId
uuu_resc_short_name	Id	Id
uuu_resc_name	Name	Name
uuu_resc_status	IsActive	IsActive
uuu_resc_curr	CurrencyName	CurrencyName

Resource Rate from P6

A mapping template is created to map the fields of **Resource Rate** object in P6 to **P6ResourceRate** object in Unifier. The following is used for creating/updating a new Rate Sheet in Unifier:

Unifier Field Name	Gateway Field Name	P6 Field Name
ResourceObjectId	ResourceObjectId	ResourceObjectId
effective_date	EffectiveDate	EffectiveDate
standard_rate	PricePerUnit	PricePerUnit

Role Data from P6

A mapping template is created to map the fields of **Roles** object in P6 to **P6Role** object in Unifier. The following is used for creating/updating a new Rate Sheet:

Unifier Field Name	Gateway Field Name	P6 Field Name
uuu_role_parent_id	ParentObjectId	ParentObjectId
uuu_role_short_name	Id	Id
uuu_role_name	Name	Name
uuu_role_status	IsActive	IsActive

Create Role Rate from P6

A mapping template is created to map the fields of **Role Rate** object in P6 to **P6RoleRate** object in Unifier. The following is used for creating a new Role in the Rate Sheet:

P6 Field Name	Gateway Field Name	P6 Field Name
RoleObjectId	RoleObjectId	RoleObjectId
standard_rate	PricePerUnit	PricePerUnit

This mapping template contains the pre-defined elements of Unifier mapped to corresponding fields in P6, but you can deploy additional custom attributes to Gateway (for Activity Sheet), and they will be available for the data mapping templates.

For required fields, the integration will fail if you change the data mapping template (or create your own data mapping template) such that a required element is no longer in the template (that is, you remove a required element from the mapping template).

Note

The schedule type is a required field while sending the data across multiple P6 projects to Unifier.

Business Flows in Gateway

The following out-of-the-box (OOTB) Business Flows are available in Gateway:

Business Flow	Field Mapping Template (Applied for)	Description
Get Resource and Role Rates from P6 for EVM	Sync Resource data from P6 for EVM (Both) Sync Resource Rate from P6 for EVM (Create) Sync Role data from P6 for EVM (Both) Sync Role Rate from P6 for EVM (Create)	Create/Update Rate Sheets from P6 to Unifier

Get Resource and Role Rates from P6

This business flow is used to push Rates data from P6 to Unifier **Company Workspace**. The business flow can be initiated from Unifier or Gateway. After it is initiated from either of these applications, Gateway will have all the data from P6 and will send the data to Unifier Provider. Unifier Provider then creates/updates the **Master Rate Sheet** in Unifier **Company Workspace**.

The following P6 parameters are enabled for this flow:

- Include resource hierarchy
- Include role hierarchy

The following parameter is enabled for this flow:

Delete data that no longer exists in the source application? (Default value = Yes)

Synchronization: Resource and Role Rates from P6

This synchronization is set:

- To be out-of-the-box (OOTB) to be initiated from Unifier.
- To fetch the *Resource* and *Role* list from P6, along with the respective standard rate.

Only one Master Rate Sheet is allowed at the Company level in Unifier. If the Master Rate Sheet does not exist, create one manually or use the Get Data option in the Master Rate Sheet log.

When the Master Rate Sheet exists, the fields values will be updated regularly with the latest data from Gateway.

Note

- If a transaction fails because of connection issues with Gateway, or incorrect Gateway parameters in Admin mode, it is recorded in the job history with an error message.
- While only one Master Rate Sheet exists at the Company level, users can create multiple Rate Sheets at the project/shell level.
- Resource and Role rates will be imported from P6 the first time a Master Rate Sheet is synchronized. Subsequent imports will not update the rates.

Oracle Primavera Cloud, Oracle Integration, and Unifier

If your Company Administrator has configured the accelerator and granted the required permissions, you can use the Oracle Primavera Cloud — Primavera Unifier | Integrate Resources and Schedule accelerator in Oracle Integration to view and update the System Activity Sheet or the Master Rate Sheet (or both) in Unifier with data from Oracle Primavera Cloud.

When the Master Rate Sheet is integrated, it lets you use **Get Data**  to bring in information from Oracle Primavera Cloud through the Rate Sheet Recipe. You can then view the Roles and Resources information, as well as Rates. When the System Activity Sheet is integrated, it lets you use the Activity sheet Recipe to add connections on the **Details** page for a project/shell. For more information, see the *Unifier General Administration Guide*.

To view the Master Rate Sheet:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Master Rate Sheet**.
3. Double-click the sheet to open it.

You can filter the sheet based on different fields by selecting **Find on Page** and entering the applicable information from Oracle Primavera Cloud.

To view a System Activity Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.
3. In the **Activity Sheets** log, select the **System Activity Sheet**.
4. In the right pane, use the **History** tab to view a list of **Actions** taken.

User-Defined Reports

The following sections provide details about the User Defined Report (UDRs).

Also see the [Internationalization and CSV Files](#) section for language (Internationalization) details.

Designing Accessible Reports

Unifier provides the ability to build accessible report layouts. Users create reports and layouts. As such, it is up to the users creating the reports to ensure that they are built meeting accessibility criteria, if necessary.

About User-Defined Reports (UDRs)

A user-defined report (UDR) is a customizable report that can be run at the project/shell and company levels (User mode). UDRs are defined the same way for each level; only the query fields vary for each report.

You can:

- Define as many reports as you need and save them for other users to access and run
- Run reports on cash flow curve values in either transaction or project currencies. The UDR will show the values in the chosen currency, and it will display the exchange rate used for the conversion between the transaction and project currency.
- Run snapshot reports in both currencies. All changes done in the UDR will be supported for Snapshot reports.

The following information can be included in a UDR:

- Business process data elements (fields found on a business process form)
- Business process workflow information
- System data elements (including company, project/shell, and user information)
- Column headings from cost, funding, and schedule sheets
- Cost sheet and work package data elements
- Shell P6 Summary
The data source for creating a report using the Shell P6 Summary data type are: P6 Summary and Spread.

You can open the tables within the P6 Summary Sheets in Unifier for data views.

- Data views in published status

You can save or export reports in a variety of formats, including CSV, Microsoft Excel, Adobe Acrobat PDF, and XML. File names for reports are governed by the following:

- Files generated from the Company Workspace are named using [report title].[file extension]. The report title is defined by a user on the General tab during the creation process.
- Files generated from a project/shell are named using [project number]_[report title].[file extension]. The project number indicates where the data originates.

- File names must be 255 characters or fewer; file names that exceed 255 characters are automatically truncated.
- Special characters that are not allowed by the operating system or email application are automatically replaced with underscores.
- The applicable extension is assigned based on the selected format, such as .csv, .xlsx, .pdf, or .xml.
- The language of the published report is based on the user who is signed in the system and is generating the report.

Accessing User-Defined Reports (UDRs)

User-defined reports (UDRs) are set up and run in **User** mode. You can run UDRs at the:

- Project level
- Shell level
- Company level

When you run a report based on a permission-aware Document Manager data source, the system lets you see the report only if you have permission to see the data source, in case of:

- Document Manager - Company
- Document Manager - Project/Shell

For Collaborator Users, access to creating and viewing UDRs is also determined by permissions. If the **Create Permission Based** setting is enabled for your account, you can create and view UDRs and transfer ownership. If only the **View** setting is enabled, you can view existing UDRs and transfer ownership.

In **User** mode, UDRs reside in the **User-Defined Reports Log**. For more information, see User-Defined Reports Log.

To access UDRs from this log:

1. Go to the applicable tab, and switch to **User** mode.
2. In the left Navigator, select **Reports**, and then select **User-Defined**.

User-Defined Reports Log

The **User-Defined Reports** log displays the following toolbar options.

Note

You must have specific permissions to use the listed options.

Create

Enables you to select a source for your newly defined reports by providing the following options:

- **From System Data Sources**
- **From Permission Based Data Sources**

- **From Templates**

The options above will be explained in subsequent sections.

Actions

Enables you to perform the following functions on the selected report:

- **Transfer Ownership**

Enables you to transfer the report ownership. Click **Select** to open the User Picker screen and select the user name.

- **Delete**

- **Permissions**

Enables you to open the **Permissions** window and do any of the following:

- View a list of users, groups, or both users and groups and their permissions.
- Add, modify, or remove permissions.
- Add, modify, or remove users or groups.

When you are in the Permissions window, you can use **Next** < or **Previous** > to move to the next or previous report and view the report permissions settings, users, and groups.

Select **Save** to save your changes. Select Cancel to return to the log.

View

Similar to the **View** function of a BP, it enables you to set the view of the **User-Defined Reports** log by using the following options:

- **All Reports**
- **Owned by Me**
- **Create new view**
- **Manage Views**

Edit View

Enables you to modify the user-defined view. You can use this option to modify the list of available columns, apply filters, change grouping, or change sorting.

Refresh

Enables you to refresh the information displayed on the log.

Print

Enables you to print the contents of the log.

Find on Page

Enables you to find specific information on the log.

The **User-Defined Reports** log has the following columns:

Name

The name of the report.

Description

The description of the report, if available.

Data Type

The report data type.

Access Type

The report access type.

Report Type

The report format type. By default, the **Tabular** option is selected. You can create and run user-defined reports of the following types:

- **Tabular:** This is the basic report format, arranging information vertically in columns. Tabular reports are a way to present related information for multiple records on the same page.
- **Cross tab:** Cross tab reports allow the display of data on two axes and enable users to run time-series reports defined by two data sources, for example, payments made per quarter per vendor.
- **Summary:** Summary reports can be run to display summary data. Project-level summary reports can also be used to customize the project summary page and include the information that is most useful for you.
- **Alert:** Project/shell-level alert reports are used to set up and customize system alerts based on project/shell-level triggers that you specify. For example, you have an alert let you know when your remaining budget is getting low. Alerts are set up and customized by users for their own use using alert reports.

Enable for Integration

Enables you the condition of the report, related to integration.

Owner

The owner of the report.

Last Run Date

The date the report was run the last time.

Creation Date

The creation date for the report.

Last Modified By

The person who modified the report the last time.

Last Modified Date

The date the report was modified the last time.

Schedule

The schedule that is set for the report to run.

The **User-Defined Reports** log reports have the following options for the *gear menu* (

- **Run**
- **Copy**
- **Edit**

- **Transfer Ownership**
- **Permissions**
- **Delete**

Tabs

When you select a report, the **User-Defined Reports** log splits and displays the following report properties tabs:

Saved Results tab

This tab provides the following information about the report, if available:

- **Run Date**
- **Scheduled/Ad-Hoc**
- **Run By**
- **Output Format**

Permissions tab

This tab provides permissions related information such as groups, users, and permissions types.

Schedule tab

This tab provides information about:

- Scheduled report runs.
- Whether the report has been enabled to have scheduled Report runs.
- Output formats and scheduling frequencies

This tab also provides additional information about the report schedule, if any.

Use **Expand**  to expand the properties tab pane. Use **Collapse**  to collapse the properties tab pane.

User-Defined Report Types

You can create and run user-defined reports of the following types:

Tabular: This is the basic report format, arranging information vertically in columns. Tabular reports are a way to present related information for multiple records on the same page.

Cross tab: Cross tab reports allow the display of data on two axes. Cross tab reports enable users to run time-series reports defined by two data sources, for example, payments made per quarter per vendor.

Summary: Summary reports can be run to display summary data that can be used on project/shell and company Summary views.

Alert: Project/Shell-level alert reports are used to set up and customize the generation of system alerts, based on a project/shell trigger that you specify. For example, you can have alerts let you know when your remaining budget is getting low. Alerts are set up and customized by users for their own use using alert reports.

When creating a new user-defined report, the process is similar for all report types. The **Columns** tab is the only tab that is different for each report type. Additionally, only Tabular reports have a **Group By** and **Sort By** tab.

User-Defined Report Data Types

After choosing the report type (Tabular, Cross tab, Summary or Alert), you choose a data type. This determines the type of data that will be displayed on the report.

Data Type	Project UDR	Shell UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Accounts Sheet			X		
Active Task Information	X	X	X	X	
Asset Summary Sheet			X		
Audit			X		X
Commitment Summary	X	X		X	
Company Cash Flow			X		
Company Cost			X		
Company User Information			X		
Cost Sheet - CBS	X	X		X	
Cost Transactions - CBS	X	X		X	
Cost Transactions MC - CBS	X	X			
Data Views	X	X	X	X	
Document Manager	X	X	X	X	
Document Manager—Company			X		
Equipment			X		X
Funding	X		X	X	
Gates	X	X		X	
Inventory			X		X
Inventory On-hand Detail			X		X
Item Master			X		X
Job Plan			X		X
Master PM Book			X		X
Master PM Meter Schedule			X		X
Master PM Time Schedule			X		X

Data Type	Project UDR	Shell UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Material Transaction			X		X
Partner User Information			X		
PM Book			X		X
PM Meter Schedule			X		X
PM Time Schedule			X		X
Resource Booking	X			X	
Resource Manager—All Actuals			X		
Resource Manager—Allocated Roles	X			X	
Resource Manager—Booked Resources	X			X	
Resource Manager—Project Actuals	X			X	
Resource Manager - Resources (Company)				X	
Resource Manager—Roles			X		
Resource Manager—Sheets	X			X	
Service Center			X		X
Service Request			X		X
Schedule of Values	X	X	X	X	
Shell or Project Cash Flow	X	X	X	X	
Shell or Project Cost	X	X		X	
Shell or Project Groups	X	X		X	
Shell or Project Information	X	X		X	
Shell or Project Users	X	X		X	
Workflow Information	X	X	X	X	
Work Order			X		X

Data Type	Project UDR	Shell UDR	Company UDR	UDR Template	Use for Maintenance Management Only
Work Order Items			X		X
Work Order Role			X		X
(Asset class name)			X		
(Business process name)	X	X	X		
(Planning type name)			X		

Creating a User-Defined Report

To create a new user defined report:

1. In the left Navigator, select **Reports**, and then select **User-Defined**.
2. From the toolbar of the **User-Defined Reports** log, select **Create**, and select one of the following:
 - **From System Data Sources**
 - **From Permission Based Data Sources**
 - **From Templates**
3. Fill out all tabs in the **New User Defined Report** window, and select **Save Report** or **Save Report & Run**.

If you create a UDR using Active Task Information as the Data Type, the **Task Action Date** displays the date and time from the **Workflow Progress** tab of the BP record.

For more information, see the following topics on how to complete each tab.

General Tab

The General tab allows you to input general information about the report, as well as select the type of information that will be used as the basis of the report. It contains the following fields:

- **Data Type:** Select the type of data on which the report is being run. Data Type selected will be locked for the report and cannot be reverted. This is a required field.
- **Report Name:** This is a required field.
- **Report Type:** This is a required field. It has the following options:
 - **Tabular**
 - **Cross Tab**
 - **Summary**
 - **Alert**

See [User-Defined Report Types](#) for more information about each type.

- **Report Title**

- **Element Type:** The values in this drop-down menu are based on the data type selected. This is a required field.
- **Description**
- **Access Type**
- **Report Owner**
- **Enable for Integration.**
- **Default Time Zone:** Select the time zone that will be applied when the report is run.
- **Accessible:** This option enables the manual report run results to meet accessibility standards. When enabled, the output format is HTML, and the page layout will be portrait. This option does not apply to scheduled report runs.

Note

You can only access the other tabs after the required fields of the General tab are completed. After you move to another tab, the **Data Type**, **Report Type**, and **Element Type** fields will become read only and cannot be edited.

Columns Tab

The **Columns** tab allows you to define the structure of the report based on the different report types.

In the **Available Columns** section:

1. From the **Select a Data Source** list, select a data source, such as query-based tabs. Query-based tabs of a BP display as a data source for UDRs at the following levels:
 - Company Templates
 - Shell Templates
 - Company Workspace
 - Shell levelQuery-based tabs display as a data source in the format: *<BP Name> / <QBT Name>*
2. In the **Data Element** column, select the checkbox for each data element.
3. Drag and drop the selected data elements to the left pane to add columns to the report.
4. Perform any of the following actions:
 - Select **Add Formula** to add a custom column that is not listed in the **Available Columns** section, and then create a formula using the other existing data elements. For example, a formula to display the remaining number of days before the due date is reached. Create this formula by subtracting a due date data element from a current date data element.
 - Select **Refresh**  to refresh the list of selected columns in the left pane.
 - Select **Delete**  to delete a selected column from the left pane.
 - Select **= Reorder** to modify the display order of the selected columns in the left pane.

Tabular Report - Columns Tab

Add Formula ↻

Data Element	Column Heading	Alignment	Width	Summary	Formula
Inspections / Record No.	Record No.	Left		No	
Inspections / Title	Title	Left		No	
Inspections / Due Date	Due Date	Center		No	

Current width(in pixels): 10
Maximum available width: 572
Note: Unspecified column widths will be displayed evenly for user during execution

Available Columns [Ⓢ]

Select a Data Source

Inspections /

Filter Data Element ✕

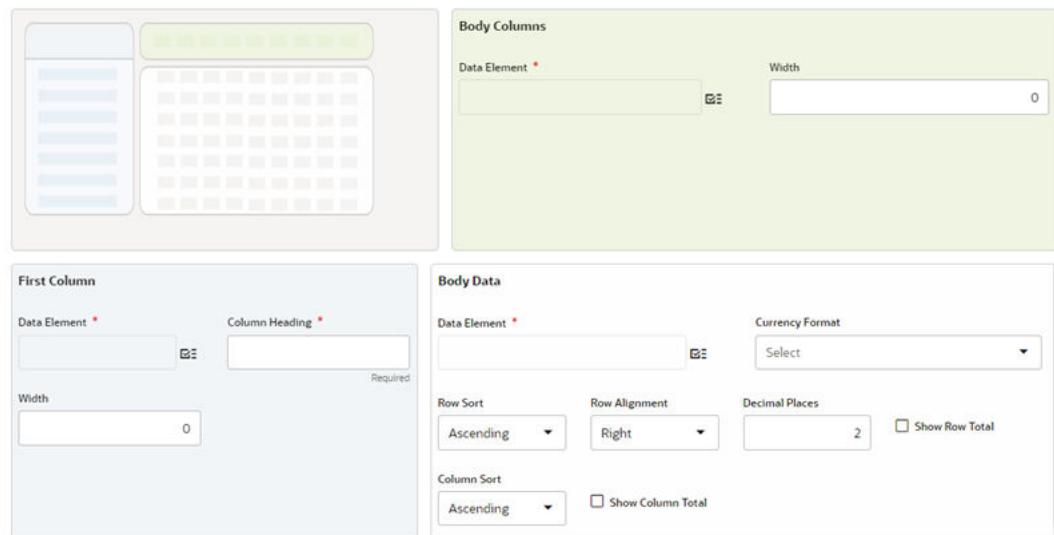
Data Element	Data Element Label	Type
☐	end_date	End Date
☐	uuu_record_...	Record Last Up...
☐	status	Status
☐	creator_id	Creator
☐	amount	Amount
☐	usrAppEstR...	Request an Esti...
☐	usrMaterialR...	Material Reques...
☐	ucwoTotalM...	Material Costs
☐	ueqpWarran...	Warranty Details

The left pane header contains the following elements and columns:

- **Data Element**
- **Column Heading**
- **Alignment**
- **Width**
- **Summary**
- **Formula**
- **Hide**

Crosstab Report - Columns Tab

The color of each block corresponds to the picture in the top left block, to display how data is arranged. Select at least one Data Element for the **Body Columns**, **First Column**, and **Body Data** blocks.



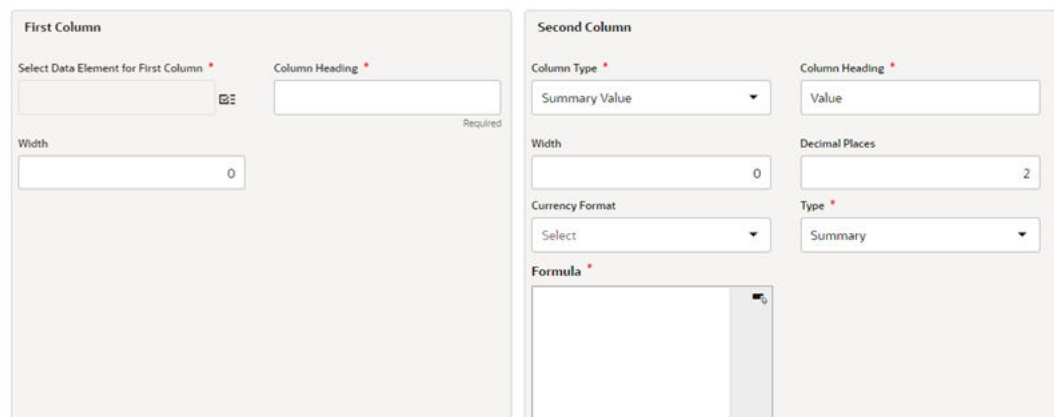
The image shows the configuration interface for a Summary Report's Columns tab. It includes a visual preview of the report layout at the top left. The main configuration area is divided into three sections:

- First Column:** Contains fields for 'Data Element' (with a selection icon), 'Column Heading' (marked as 'Required'), and 'Width' (set to 0).
- Body Columns:** Contains a 'Data Element' field and a 'Width' field (set to 0).
- Body Data:** Contains fields for 'Data Element' (with a selection icon), 'Currency Format' (a dropdown menu), 'Row Sort' (set to 'Ascending'), 'Row Alignment' (set to 'Right'), 'Decimal Places' (set to 2), and checkboxes for 'Show Row Total' and 'Show Column Total'.

Summary Report - Columns Tab

This is the **Columns** tab for a **Summary** report. The following fields are required:

- First Column
 - **Select Data Element for First Column**
 - **Column Heading**
- Second Column
 - **Column Type**
 - **Column Heading**
 - **Type**
 - **Formula**



The image shows the configuration interface for an Alert Report's Columns tab. It includes a visual preview of the report layout at the top left. The main configuration area is divided into two sections:

- First Column:** Contains fields for 'Select Data Element for First Column' (with a selection icon), 'Column Heading' (marked as 'Required'), and 'Width' (set to 0).
- Second Column:** Contains fields for 'Column Type' (set to 'Summary Value'), 'Column Heading' (set to 'Value'), 'Width' (set to 0), 'Decimal Places' (set to 2), 'Currency Format' (a dropdown menu), 'Type' (set to 'Summary'), and a 'Formula' field.

Alert Report - Columns Tab

This is the **Columns** tab for an **Alert** report. Enter a formula for the report column.

The screenshot shows a configuration window for a User-Defined Report. It contains the following fields:

- Type:** A dropdown menu with "Summary Value" selected.
- Condition:** A dropdown menu with "equals" selected.
- Trigger Value:** A text input field containing the value "0".
- Indicator:** A dropdown menu with "Green" selected.
- Formula:** A large text area for entering a formula, marked with a red asterisk and a "Required" label at the bottom right.
- Summary Type:** A dropdown menu with "Summary" selected.

Query Tab

The Query tab allows the entry of query parameters as defined during creation and setup. If the report has been set up to enter query parameters, you may enter query information, which will give report results based on records that match the parameters you entered, or you can run a report on all records by leaving the field blank.

User-Defined Report (UDR) and Query-Based Tab

Users will be able to use the Summary Elements, from any of the QBTs, in any of the UDRs that the user wants to use if the UDR is based on the same business process record.

The toolbar of the Query tab has the following elements:

- **Add**
- **Refresh**
- **Filter**
- **Show results matching any of the following conditions**

To add a query condition in the Query tab:

Select **Add**, and select **Query Condition based on Data Element** or **Query Condition based on Formula**.

- When selecting **Query Condition Based on Data Element**, the Add Data Element Query Condition window opens and displays the following fields and elements:
 - **Data Element:** The source of the data that will be used to create the query condition. This is a required field.
 - **Label**
 - **Condition:** Defines how the data element will be checked, such as if the value of the data element is equal to, less than, or greater than the specified value. This is a required field.
 - **Values:** The values that are used by the Condition when checking the data element.

- **Allow users to modify value(s) during execution**
- **Cancel**
- **Save**
- **Save & Add New**
- When selecting **Query Condition Based on Formula**, the Add Formula Query Condition window opens and the following fields and elements:
 - **Formula Label:** This is a required field.
 - **Formula:** To create a formula with multiple data elements when an existing data element does not capture the desired value.
For example: You can create a formula that subtracts a due date data element from a current date data element to represent how many days are left before the due date is reached, and you can create a condition based on that value.
 - **Condition:** Defines how the formula will be checked, such as if the value of the formula is equal to, less than, or greater than the specified value. This is a required field.
 - **Values:** The values that are used by the Condition when checking the data element.
 - **Allow users to modify value(s) during execution**
 - **Cancel**
 - **Save**
 - **Save & Add New**

Note

If you select the **Allow users to modify value(s) during execution** option, the Allow Modify at Run column will contain a check mark. You have the option to deselect the **Allow users to modify value(s) during execution** option. However, the Allow Modify at Run column will display a checkbox regardless of whether the box is selected in the query condition (Add Data Element Query Condition).

The log of the Query tab displays the settings of each query condition, along with the actions you can perform on each query condition. It contains the following columns:

- **Data Element**
- **Label**
- **Condition**
- **Value(s)**
- **Allow Modify at Run**
- **and/or**
- **Delete**
- **Reorder**
- **Action**
 - **Open**
 - **Delete**

To edit a previously added query condition, select the three dots  in the **Action** column of the log, and select **Open**.

Note

You cannot open a previously added query condition by double-clicking it in the log.

Group By and Sort By Tabs (Tabular Report Only)

Group By tab

The Group By tab allows you to create groups based on the selected columns. You can create a max of three groups using the **Add** button.

The Group By log has the following columns:

- **Group By**
- **Group Heading**
- **Order**
- **Delete**
- **Reorder**

After a group is added, you can edit the **Group By** and **Order** fields for that group by double-clicking.

The right tab has the following additional options:

- **Show Group Header**
- **Show Detail Rows**
- **Show Summary Row in Footer**
- **Show Group Name**
- **Show Count in Footer**

Sort By tab

The Sort By tab allows you to arrange the results in ascending or descending order, based on the added columns.

Layout Tab

The Layout tab allows you to configure where the content of the report is displayed. It contains the following elements:

- **Paper Size**
- **Page Orientation**
- **Add**
- **Show Border**

Below the header options is a visual representation of how information will be organized when the report is run. It contains the following columns:

- **Left Column**
- **Center Column**
- **Right Column**
- **Row Height**
- **Delete**
- **Reorder**

Each column contains cells that represent blocks of information. To add content to a cell, select **Add**. The Page Layout window opens.

Select which section to add content to with the **Select Layout for** field, using one of the following options:

- **Title**
- **Header**
- **Footer**
- **Summary**

Input a row height in the **Select row height** field.

You can select the content for the Left, Center, and Right columns, and then select the Vertical Alignment for each. Once finished, select **Save**.

Workspaces Tab

The Workspaces tab allows you to choose which shells to pull data from when the report is generated. It contains the following options:

- **Current Shell and Sub Shells**
- **Current Shell Only**
- **Sub Shells Only**
- **User-Defined**
- **Exclude Inactive Workspaces**

If you select **User-Defined**, you can specify which shells will be used in the report generation. Select **Add**, and use the arrow buttons to move shells from the Available Workspaces list to the Selected Workspaces list.

User-Defined Report Formats

You can choose the format of user-defined report results. The report format options are available in the **Query and Format** section of the report at runtime.

The report format options are:

- **HTML**: Displays the report in the standard format in a browser window. You may print a copy of the report from the browser window. (Right-click and select your browser's Print option)

- **CSV:** Formats the report in an exportable CSV format, usually in Microsoft Excel or another software application you have set up for this format. You will be prompted to save the file or open it.
- **Excel:** Downloads the report in Microsoft Excel format. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually. By default, the system uses the XLSX format (.xlsx extension) for the file name.
- **PDF:** Displays the report as a PDF in a browser window. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually.
- **XML:** Generates the output in XML format. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually.

If you want to save the report results in Unifier, select the **Save results in Unifier** checkbox in the Report Location section of the report. Selecting this checkbox will save a copy of the PDF, XML, or CSV report and make it available for retrieval. For information on file names, see [About User-Defined Reports \(UDRs\)](#).

Note

- Scheduled report runs can only be saved and retrieved in PDF, XML, or CSV formats and sent to the report owner or to the owner and other users and groups. These are chosen in the Schedule tab of the Edit Report window.
- If you select a report format other than PDF, XML, or CSV, the **Save results in Unifier** checkbox will be disabled.
- The DE of type Rich Text DE is not available to be added to the User-Defined Reports (located in the left Navigator, under Reports).

Running a User-Defined Report

Running a user-defined report consists of the following elements:

- Define query parameters if applicable
- Review/choose projects/shells to include if applicable
- Add runtime notes if applicable
- Choose the report format (HTML, CSV, Excel, PDF, XML)
- Run the report

The following describes how to run project/shell and company-level user-defined reports.

Note

User-defined reports created with data view data types require the data view to be in "published" status. If the data view was changed to "draft" status, the report will not run, and you will see an alert.

To run a user-defined report:

1. Go to the project/shell tab or **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Reports**, and then select **User-Defined**.

3. In the **User-Defined Reports** log, select the applicable report, select the *gear menu* () and select **Run**.
4. In the report dialog box, select and enter values in the applicable values, which vary depending on the report.
For more information, see the table below.
5. Select **Run Report** to generate the user-defined report.

Depending on your browser and your report format, the file will be downloaded automatically or you will be prompted to download the file manually.

Query and Format

Option	Description
Report Format	Choose the format in which the report should appear: HTML, PDF, CSV, Excel, or XML. • HTML: Displays the report in the standard format in a browser window. You may print a copy of the report from the browser window. (Right-click and select your browser's Print option.) • CSV: Formats the report in an exportable CSV format, usually in Microsoft Excel or another software application you have set up for this format. You will be prompted to save the file or open it. • Excel: Downloads the report in Microsoft Excel format. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually. By default, the system uses the XLSX format (.xlsx extension) for the file name. • PDF: Displays the report as a PDF in a browser window. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually. • XML: Generates the output in XML format. Depending on your browser, it will be downloaded automatically, or you may be prompted to download or save it manually.
Record count or UDR	This option is available for Tabular, Summary, and Cross Tab type reports. You have ability to set the number of records to be retrieved for the report. This number will be set equal to the maximum number set at the company level by default, by the company administrator. The maximum number will be divided into intervals so that you can select the appropriate number. Also, the numeric format for the count must match your preferences. For more information, see the Options Available for Record Count table.
Time Zone	For information purposes, the Query tab displays the time zone that is used for date fields in the report. The default time zone for a report is set up when the report is designed. It can reflect your user time zone, as defined in your user preferences, or it can be fixed to a particular time zone, such as the project location or company headquarters.

Option	Description
Report Query Parameters	If the report has been set up to enter query parameters, you may enter query information, which will give report results based on records that match the parameters you entered, or you can run a report on all records by leaving the field blank. The query parameters are defined during creation and set up. For example, you can set up a report to list all leases that expire within 10 days of today. You can also choose to accept the default query parameters, if any. For company-level UDRs you can see all projects/shells with a status of Active, On-Hold, or View-Only. You can specify which project/shell the report should be saved in. For shell-level reports only, you can choose to exclude Inactive shells in the report run. Depending on how the report was set up (specifically, if "Allow users to modify value(s) during execution" was enabled in the creation step), you may add or remove projects/shells as needed. For shell-level (cross-shell) UDRs, you can retrieve data across shells and sub-shells. You can select to exclude inactive shells in the report run, and the selection of shells is determined when the UDR is created. You cannot modify: • Current Shell and sub-shells • Current Shell only • Sub-shells only You cannot modify fields unless the fields are set as user-defined. If the Allow user to modify User-defined list during execution checkbox was selected when the UDR was created, you can modify the list of User Defined shells at run time of the report by using the Add and Remove buttons. You can only add the shells in which you are a member user.

Report Location

Option	Description
Save Report Location	If you want to save the report, choose the location it should be saved in: • Save results in Unifier: This checkbox becomes active if you select PDF, XML, or CSV. Selecting this checkbox will save a copy of the PDF, XML, or CSV report and make it available for retrieval. • Document Manager: Saves the report in the Document Manager. If you choose this option, specify a name for the report (Save As) and which folder of the Document Manager it should be saved in (Location). Scheduled report runs can be saved and retrieved in PDF, XML, or CSV formats and sent to the report owner or to the owner and other users and groups. These are chosen in the Schedule tab of the Edit Report window.

Workspaces

Option	Description
Workspaces	The Workspaces block is for shell-level and company-level reports. In the Workspaces block you can add additional shells that the report can be generated from. When you run report, the Workspaces block displays "User Defined" if you have selected "User Defined" under the shells tab in the report definition. You can exclude Inactive Workspaces by selecting the checkbox, "Exclude Inactive Workspaces," in the report definition. The project/shell tabs appear for company-level UDRs and shows all projects/shells with a status of Active, On-Hold, or View-Only. You cannot modify the list unless the Workspaces block displays "User Defined." All the shells selected in the Shells tab under Edit report will be displayed in Workspaces overlay (Available Workspaces). If the checkbox "Allow user to modify User-defined list during execution" is selected, you can modify the list of workspaces by using the Add or Delete options. When you select Add, a new Workspaces Picker is displayed with both available and selected workspaces (Selected Workspaces section of the Workspaces page). All the shells that are already added in the report definition are displayed in the Selected Workspaces. You can add additional shells or remove the existing ones in the Workspaces Picker. The Type field has the default value of "All." The other options are all for active shell types. You can filter shells by type. The Find on Page option is available to filter the available workspaces. The Select option will add all the newly added workspaces, as a part of filtered list, while reporting. The Cancel option will cancel the changes and closes the window. When in the report definition, under shells tab, any of the following options are selected, the Workspaces block displays an empty list, and the report will be run for all workspaces(shells and sub workspaces (sub-shells)), based on the selection: • Current Shell and Sub-Shells • Current Shell only • Sub-Shells only

Notes

Option	Description
Notes	Enables you to enter report notes that will be included only on the current report results (to be generated) and will not be saved or generated in any subsequent report results.

Options Available for Record Count

Max Limit at Company	Options available at Report level
100,000	1,000 10,000 25,000 50,000 75,000 100,000
250,000	1,000 50,000 100,000 150,000 200,000 250,000
500,000	1,000 100,000 150,000 200,000 250,000 500,000
750,000	1,000 100,000 150,000 250,000 500,000 750,000
1,000,000	1,000 100,000 250,000 500,000 750,000 1,000,000

Retrieve scheduled report results

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log. The **Saved Results** tab opens in the right pane.
3. Double-click the saved result, or select the *gear menu* (⚙️), and select **Download** to view. You will be prompted to open or save the results file.

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

Delete saved report results

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log. The **Saved Results** tab opens in the right pane.

3. From the *gear menu* () , select **Delete**. Select **Yes** to confirm.

Saving and Retrieving Scheduled Report Results

Report owners can schedule user-defined reports to run automatically and save the results as PDF, XML, or CSV files. If you have run permission for a report, you can view or print any saved results. Report owners can delete saved results from a scheduled report run. For information on file names, see [About User-Defined Reports \(UDRs\)](#).

You can save report results and query parameters on reports that you run manually (ad hoc). This option is available only when the report is being generated in PDF, XML, or CSV format. This is available at runtime for project/shell-level and company-level user defined reports.

Note

The default time zone for a report is set up when the report is designed. It can reflect the time zone of the person running the report, as defined in user preferences, or it can be fixed to a particular time zone, such as the project location or company headquarters. If the "user's time zone" option was selected in the setup of this report, the time zone reflected on the scheduled report results will be that of the report owner.

To save report results:

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log. The right pane displays results that have been saved from manual (ad hoc) report runs as well as scheduled report runs.
3. Select the *gear menu* () , and select **Run** to open the User-defined Report window.
4. In the Query and Format section, choose **PDF, XML, or CSV**.
5. In the Report Location section, select the **Save results in Unifier** checkbox. This saves a copy of the report results.
6. Select **Run Report** to run the report. This may take a few moments. When the report is generated, you will be prompted with a download window for the report, or it will be automatically downloaded to your system. The report will also be saved in the **Saved Results** tab in the right pane.

To save report results from scheduled report runs:

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log. The right pane displays results that have been saved from manual (ad hoc) report runs as well as scheduled report runs.
3. Select the **Schedule** tab in the right pane.
4. Select the **Enable Scheduled Reports Run** checkbox and select values for the **Output Format, Frequency, and Range of Recurrence** fields.
5. In the Saved Report Location info section, select the location in which you would like to save the reports that are generated according to the schedule. If you select **Saved Results** log, the report results will appear in the **Saved Results** tab of the report record. If you select **Document Manager**, the report results will appear in the Document Manager.
6. Select **Save** when finished.

To retrieve saved report results:

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log and select the **Saved Results** tab in the right pane.
3. Double-click a saved result to download the report results to your system.

To delete saved report results:

1. Navigate to the project/shell-level or company-level User-Defined Reports log.
2. Select a report from the log, and select the **Saved Results** tab in the right pane.
3. Select the *gear menu* (⚙️) next to the result, and select **Delete**.

Printing Report Results

After running a report, you can print a copy. Depending on the report format you chose, the report results are displayed in a browser window (HTML, XML), Adobe Acrobat Reader (PDF), Microsoft Excel (Excel, CSV), or other software application displaying CSV format. The printing functionality depends on the format of the report.

To print report results:

Run a user-defined report (user defined report).

For most formats, the file is downloaded automatically, or you are prompted to download the file by your browser. For HTML and XML, you may need to right-click the browser pop-up window and choose **Print**. Additional printing functionality may be available depending upon the report format. For information on file names, see [About User-Defined Reports \(UDRs\)](#).

Transferring Reports Between Environments

Multiple user-defined reports (UDRs) can be transferred between Unifier environments.

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Configuration Package Management**, and then select **Component Lists**.
3. Select **Create**.
4. Scroll to the **Company Workspace** section, and select **User Defined Reports**.
5. Select your reports.
6. Enter a value in the **Name** field (top left).
7. (Optional) Select **Error Check** to see if there are any dependencies.
8. Select **Save**.

Note

You can use the **Save As** option if you want to copy the component list.

To create a configuration package:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.

2. In the left Navigator, select **Configuration Package Management**, and then select **Configuration Packages**.
3. Select **Create**.
4. Enter values in the **Package Name**, **File name** (zip file name), and **Components Lists**.
5. Select the component list related to your selected report.
6. In the **New Configuration Package** window, select **Next**. The window displays a preview of your reports.
7. Select **Next**. In case of errors, you will see messages; if no errors are detected, respond to the following:
 - Do you want to publish this package for production?
 - Download package after creation.
8. Select **Create** to create the configuration package.
9. Import the configuration package into the destination environment to transfer the reports.

Working with Custom Reports

If your company has custom reports in a project/shell developed through Oracle Analytics Server, the custom reports will be available under the **Custom** grouping node.

Note

You must have permission to access custom reports in User mode. For Collaborator Users, access is limited to View if permission is enabled.

To run a custom report in a project/shell:

1. Go to the project/shell tab, and switch to **User** mode.
2. In the left Navigator, select **Reports**, select **Custom**, and then select the applicable report. The Reports log shows the list of available custom reports. The **Report Settings Page** will open in the right pane.
3. In the **Template and Format** section, select an output format.
4. In the lower-right corner of the Report Page, select **Run Report** to generate the report in the selected format.

Note

The print output is based on your permissions to certain data.

Report Settings Page

When you select the **Report Name** functional node, under the **Custom** grouping node in the left Navigator, the Report Settings Page will open in the right pane.

The following explains the main elements of the Report Settings Page:

- **Name:** The Report name appears in the upper-left corner of the page.

- **Template and Format:** The Template field is a drop-down list that displays the default template that was used at the time of designing the report in the Oracle Analytics Server. If multiple templates are available for the External Report, they will be listed in this drop-down list.

The Format field is a drop-down list that displays the default format (set based on the default template) that was used at the time of designing the report in the Oracle Analytics Server. If multiple formats are available for the selected template, they will be listed in this drop-down list.

Example

Available Template: Contracts

Available Formats: PDF, RTF

- **Search Parameters:** This section contains all the parameters that are designed for the External Report in the Oracle Analytics Server. Oracle Analytics Server supports the following parameter data types:

- String
- Integer
- Boolean
- Date
- Float

Acceptable values (which include wildcard characters) for these parameters depend on the data model used for the report definition.

Except for the Date parameter, the Reports Settings window displays a text field for the other parameters.

- **Additional Parameters:** Displays additional parameters as defined by the report.
- **Run Report:** When you select **Run Report**, the system generates the report. When you run an External Report in User mode, the system accesses the Oracle Analytics Server and the External Report output will be based on the latest design of the report in the Oracle Analytics Server. Unifier does not store any data related to the External Report content such as model, format, layout, and so forth.
- **Reset:** When you modify the Template, Format, or Parameters fields, a **Reset** button will appear in the lower-right corner of the Report Page. Selecting **Reset** will clear out all the entries made by the user and will reset the fields back to the template default.

Custom grouping node

The **Custom** grouping node, under the **Reports** grouping node in the left Navigator, includes both the Internal Reports and the External Reports.

When you select and open an Internal Report, the Internal Report log opens and contains the following columns:

- **Name:** Displays the name of the Internal Report that has been created.
- **ID:** Displays the system-generated ID, for example, uuu_ext_54 for external report and uuu_54 for internal report.

When you select and open an External Report, the External Report log opens and contains the following columns:

- **Report Name:** Displays the name of the External Report that has been created in the Oracle Analytics Server.

- **Default Template:** Displays the default template name (for the Default Format) of the External Report that has been set in the Oracle Analytics Server.
- **Default Format:** Displays the default format of the External Report that has been created in the Oracle Analytics Server.

Running an External Report

When you run an External Report in User mode, the system accesses the Oracle Analytics Server and the External Report output will be based on the latest design of the report in the Oracle Analytics Server. Unifier does not store any data related to the External Report content such as model, format, layout, and so forth.

When you open an External Report, the **Report Settings** window opens, which contains fields related to the External Report parameters (listed in the Parameters section of the window), and fields related to the template and format for the External Report (Available Templates and Available Formats). The User can set the External Report attributes in the Reports Settings window.

Permission-Based User-Defined Reports (UDRs)

When you are creating User-Defined Reports (UDRs) at the project/shell and company levels, you have the option to create them with **System Data Sources** or with **Permission Based Data Sources**.

Note

To be able to create the UDRs, you must have the **Full Access**, **Create All**, and **Create Permission Based** permissions.

1. Go to project/shell or Company Workspace tab, and switch to **User** mode.
2. In the left Navigator, select **Reports** and select **User-Defined**.
3. Select **Create**, and select one of the following:
 - **System Data Sources**
 - **Permission Based Data Sources**

If you select the **System Data Sources** option, you can use the **Create a new report** window to create a UDR based on the following fields:

- **Data Type**
- **Report Type**
- **Element Type**
- **Access Type** (read-only)
- Query-based tabs associated with a BP

If you select the **Permission Based Data Sources** option, the following data sources are available to create permission-aware UDRs:

- Business Process (BP)
- Document Manager
- Query-based tabs associated with a BP

In the User-Defined Reports log, the **Copy from Templates** option (based on the report that is selected) will create a copy of the report based on the existing functionality.

The above applies to when you have the **Permissions Create Permission Based** permission.

When only have the **Create for Permission Based Data Sources** permission, you have the ability to create UDRs based on the permission aware data.

When creating a new UDR by way of copying an existing one, if you select a System Access Type report, the system does not allow you to create a UDR that is based on System Data Sources and displays an alert.

The permission for permission-aware data sources for a report that is packaged will be transferred from one environment to another.

Review the following for more information

When you are running report based on system-defined data sources, if your report is based on system-defined data sources, the report will contain the system-defined data irrespective of your permissions. The same result will be applicable to the Schedule Reports.

When you are running report based on permission aware BP data sources, and the permission aware reports are created based on BP data sources, then:

- The data presented in the report will be based on the permissions of the user who is running the report, and the user will only be able to access the data that they have permissions to see through the user interface.
- If you are running a permission based report, and you do not have access to the data for the BP data source, the report output will be blank.
- In case of Scheduled Reports, the data returned will be based on the permissions of the user who is creating the report.
- The permission restriction is applicable only to the first level of data source.

Example

User One and User Two are Unifier users.

User One has permission to access the Meeting Minutes BP, but User Two does not have permission to access the Meeting Minutes BP.

The Meeting Minutes BP log has a column that refers to an Action Items BP.

User One does not have permission to access the Action Items BP.

When User One creates and runs a report on the Meeting Minutes BP, User One will be able to see the data related to Meeting Minutes BP as well as the column data which references the Action Items BP.

When User Two creates and runs a report on the Meeting Minutes BP, User Two will see a blank report.

- For a Company-level UDR, if the access permission to data goes across the projects, you will be able to view the data for BPs based on permission levels present for those BPs across the projects.

When a user is running a report based on a permission-aware Document Manager data source:

- When running such a report, the data presented in the report will be based on the permissions of the user who is running the report. When present, the folder and document level permissions will also be taken into consideration.

Transfer Ownership for UDRs

The administrator can define who has access to the UDR.

At the company level as well as project level, you can use the **Transfer Ownership** option (at the log level) to change the owner of the UDR. This option will be available to change owner for multiple reports at a given time.

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Reports**, and then select **User-Defined** to open the **User-Defined Reports** log.
3. Select the reports for which you want the owners changed.
4. From the toolbar, select **Actions**, and then select **Transfer Ownership** to open the **User/Group Picker** window.
5. Select the new owner for the reports.

You can only select one user in the **User/Group Picker** window.

The list of users that you see contains the users who have access to the project/shell.

The user must have Full access permissions.

When editing, you can change the owner of a report by way of the **Report Owner** field in **General** tab.

After the owner for the report is changed, the **Permission** tab in the UDR displays the new changed owner with all permissions for that report. For example, if the ownership for report R1 was changed from A-user to B-user, the **Permission** tab displays B-user, only (with full owner permission), and the A-user will not be seen in the **Permission** tab.

Working with Audit Reports

If your company has a custom report in a project/shell, it will be available under the **System** grouping node.

Note

You must have permission to access custom reports in User mode.

To run a custom report in a project/shell:

1. Go to the project/shell tab, and switch to **User** mode.
2. In the left Navigator, select **Reports**, select **System**, and then select **Audit**. The **Audit Report Page** will open in the right pane.
3. Define query parameters if applicable.
4. In the lower-right corner of the Report Page, select **Run Report** to generate the report in PDF format.

Audit Report Page

When you select the **Audit** functional node, under the **System** grouping node in the left Navigator, the Audit Report Page will open in the right pane.

The following explains the main elements of the Audit Report Page:

- **Audit Summary Report Query**

This section contains all the query parameters that are designed for the Audit Report. You may enter query information, which will give report results based on records that match the parameters you entered, or you can run a report on all records by leaving the fields blank. The following query parameters will be visible:

- Description contains
- Event Name contains
- From (Company)
- From (User)
- From
- To
- Sort by
- Order

- **Run Report**

When you select **Run Report**, the system generates the report in PDF format.

- **Reset**

When you modify the query parameters, a **Reset** button will appear in the lower-right corner of the Report Page. Selecting **Reset** will clear out all the entries made by the user and will reset the fields back to the template default.

Unifier Mobile Application for iOS or Android

If your company employees are often out of the office, Unifier can keep the workflow moving by using the Oracle Primavera Unifier Mobile Application. The Unifier Mobile App is built specifically for installation and use on mobile devices that use iOS or Android operating system.

By using the Unifier Mobile App you can:

- Act on the assigned tasks.
- View the various tasks.
- Create new business process records.
- Work offline.

To get the Unifier Mobile App, you have the following options:

- Download it from App Store or Play Store, or
- Launch Unifier, select your user name in the upper-right corner, select **Get Unifier Mobile App**, and follow the prompts.

After download, you can scan the QR code to set up the Server URL and user name on your Unifier Mobile App.

Note

- If you are in a region without access to the Google Play Store, Apple App Store, or your organization is using a Content Security Service or Mobile Device Management solution and requires that users do not download from the Apple Store or Play Store, submit a Service Request in [My Oracle Support](#) to request versions of the Unifier Mobile App for those scenarios.
- If your iOS device does not have the Passcode feature enabled, you can download and install the Unifier Mobile App; however, the system displays a message that indicates you must go to Settings and enable the Passcode feature before you can use the application.
- If your iOS device is jailbroken (lacks the manufacturer's restriction that prevents installation of unauthorized software), you can download and install the Unifier Mobile App; however, the system displays a message that you cannot use it with a jailbroken device.
- You must have permission to access the Unifier Mobile App. If you receive a message that indicates you do not have permission, contact your Company Administrator.

Business Processes

The following Business Processes (BPs) can be accessed through the Unifier Mobile App:

- BPs used by field employees to record, or gather, data.
- Cost Type BPs used by executives, or approvers.
- BPs that require action.

For a BP to be accessed through the Unifier Mobile App, the following conditions must be present:

- The BP must be enabled for the Unifier Mobile App (**Enable for Mobile Application**) in the Business Process Configuration window (**General** tab).
- The forms that are displayed in the Unifier Mobile App are the forms designed in uDesigner.

The following BPs are *not* currently supported for use with Unifier Mobile App:

- Lease
- Line Item with CBS and WBS Codes
- Payment Application
- Project/Shell Creation
- Request for Bid (RFB)
- Reservation
- Resource Booking
- Timesheet

Important!

The Unifier Mobile App does not rely on the **Enable design for Mobile Form Factor** checkbox option that was set in uDesigner. The **Enable for Mobile Application** must be checked in the Business Process configuration window. The uDesigner option will only control the forms seen in the Unifier Mobile App (standard form as opposed to mobile form factor forms).

The setting of this option will be exported to the created *Configuration Package* (Company Workspace, Shell template, and so forth).

You cannot view data related to BPs, and assigned tasks, without the proper Unifier Mobile App configuration. Before you download the Unifier Mobile App, contact your Company Administrator to verify that the required setup has been done.

Data Type and Input Type

The following data and input types are supported in the Unifier Mobile App:

Data Type	Input Type
Checkbox	Integer
Currency	Float
Multi Select Input	String
Multi Test Lines	String
Picker	String, Date, Integer
Pull Down Menu	String, Integer
Radio buttons	String, Integer
Text Box	String
Date picker	String

Pickers

The following pickers are supported in both the iOS and Android Unifier Mobile Apps:

Picker	Single/Multi select
BP Picker	Single select
User Data Picker	Single select
CBS Picker	Single select
Data Picker	Single select
BP Line Item Picker	Single select
Configurable Manager Picker (CMx Picker)	Single select
Generic Cost Picker (CM0 Picker)	Single select
User Picker	Single select
Image Picker	Single select

User Identity

If Unifier has been configured to sign in users using single sign-on (SSO), the Sign In window will not appear on your device screen. In addition:

- The Unifier Mobile App does not capture the user's username and password.

- The user's first name, last name, and email address are all stored in Unifier database, but they are not shared with any other applications, including third-party applications.

If Unifier has been configured to sign in users using basic authentication, the Sign In window will appear on your device screen. In addition:

- Unifier captures the user's username, password, first name, last name, and email address.
- The user's username, password, first name, last name, and email address are stored in a shared object that uses encrypted format, and they are not shared with any other applications, including third-party applications.

Access Other Smart Construction Platform Applications

[Demo](#)

The Oracle Construction and Engineering applications that are included in the Smart Construction Platform are accessible from the product banner so that you can access your projects across all your applications with ease.

To access the **Smart Construction Application** panel, in the application banner, select  **Switch Applications**.

The content that displays in the panel depends on what other applications and projects you have access to.

- **Applications for Current Project:** Lists all the applications that have a link to the project that you currently have open and have access to.
- **Other Available Applications:** Lists all the other applications that you have access to.

If you do not have access to any other applications, you are presented with more information about the applications that you could be using.

To open the **Oracle Construction and Engineering Lobby**, select **Open Lobby**.

FAQs

What is the Smart Construction Platform?

Watch this brief [Smart Construction Platform Overview video](#).

I have access to the same project in multiple products, but I don't see a link to that project in the application switcher. Why not?

A link for the project between the multiple applications must be created in the Construction and Engineering Lobby by a Lobby administrator.

Learn more in the [Construction and Engineering Lobby Help](#).

Why do I see the same application listed in both my Applications for Current Project list and my Other Available Applications list?

You have access to the same application but in different instances of that application. For example, one instance may be hosted on a US data center and another may be hosted on an Australian data center.

I have access to other Oracle Construction and Engineering applications. Why don't I see them here?

Only applications included in the Smart Construction Platform are available through the Switch Applications panel.

To learn more about the Smart Construction Platform applications, visit us on [Oracle Help Center](#).

3

Working with Unifier Managers

This guide explains how to work with the following managers:

- Configurable Managers (Configurable Modules)
- Cost Manager
- Document Manager
- Portfolio Manager
- Planning Manager
- Resource Manager (if you have access to this feature, which was deprecated starting with version 23.10)
- Schedule Manager (if you have access to this feature, which was deprecated starting with version 23.5)
- Activity Manager
- Space Manager

Within the documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Note

The instructions and information presented in the documentation are based on an out-of-the-box (OOTB) setup and before being customized by the user.

Configurable Managers (Configurable Modules)

Configurable managers have flexible coding structures that allow you to analyze your data. Configurable managers are created and named in uDesigner depending on the intended task. They can be created at the project/shell or company level. Configurable managers provide additional functionality and do not replace existing managers. A configurable manager behaves like any other module in the system.

There are two types of configurable managers:

- Code-based (code based)
- Code and Records-based

You can have up to 25 configurable managers (CM1, CM2, ..., CMx. The letter "x" represents a number ranging from 1 to 25 managers). For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

The **Configurable Modules** node will display managers in the following structure:

Configurable Modules

- <name> Manager [Code-based configurable manager]
- <name> Manager [Code and Records-based configurable manager]
 - Sheets
 - Class

Note

The following sections may use the sub-nodes **Parts Manager**, **Material Inventory Manager**, **Condition Assessment Manager**, and so forth as examples of Code-based or Code and Records-based configurable managers.

For information about language (internationalization) and CSV files, see Internationalization and CSV Files.

Code and Records-based Configurable Managers

A Code and Records-based configurable manager allows you to define codes and capture data using records. This type of manager allows multiple classes of sheets and records to be created (each with its own coding structure).

For a Code and Records-based manager, you must first create the manager sheet. The system automatically adds information to the sheet as it is gathered from records that were created from business processes tied to the sheet.

For example, a **Parts Manager** could be created to do the following:

- Categorize parts by type (or class) by creating records for classes
- Track inventory at various locations
- Maintain basic cost information
- Track parts transactions (bought, sold, received, or shipped)
- Monitor costs generated by transactions

Code-based Configurable Managers

A code-based configurable manager also allows you to define codes, but it works with sheets to analyze information generated manually or from BPs. All the data is consolidated in one sheet. For a code-based manager, you must manually enter the rows on the sheet. The system automatically adds data to the rows as you manually enter it, or as it is gathered from records that were created from business processes tied to the sheet.

For example, a **Condition Assessment Manager** could be created to do the following:

- Define a building systems code structure at the company level, project level, or shell level
- Design multiple BPs to track and calculate:
 - Maintenance requirements
 - Inspections
 - Work orders
 - Repairs

- Cost of maintenance
- Deficiency costs
- Renewal costs
- Various indexes, such as a facility condition index, to monitor the condition and usability of facilities

Access a Configurable Manager (Configurable Modules)

The configurable manager modules are designed in uDesigner and configured by your company administrator.

Note

User permissions are granted per class or sheet. If you cannot view any part of the configurable manager to which you require access, contact your company administrator.

To access a configurable manager at the project/shell level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select the **[configurable manager name]**.
The managers reside under the **[configurable manager name]**.
 - If you are using a Code and Records-based configurable manager, there are sheets and classes (for example, Sheets and Material Inventory Manager).
 - To access a sheet, select the **Sheets** node, and select a sheet from the log.
 - To access a class, select a class. The log for the class opens.
 - If you are using a code-based configurable manager, there is just one sheet, which is listed under the log (for example Parts Manager).

To access a configurable manager at the company level (User mode):

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select the **[configurable manager name, class or sheet]**.

To access a configurable manager at the company level (Admin mode):

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Templates**, and then select **Shells** or **Configurable Modules** to expand it.

Reverse auto-population and Code and Records-based Managers

Certain Data Elements (DEs) support reverse auto-population (RAP). These are specified in uDesigner. RAP means that some values can be automatically updated when other values are modified in a Business Process (BP) form or Record Attribute Form.

You can use RAP to **update** the fields on records, as well as attribute forms and line items. This option can streamline the use of forms by keeping the information on them up to date with the latest data from components inside or outside the BP.

Depending on the set up in uDesigner, RAP can occur in these instances:

- Changes to the DEs in a BP Detail form under the Company level can result in changes to the Record Attribute Form of a generic manager at the Company level
- Changes to the DEs in a BP Detail form under the Project level can result in changes to the Record Attribute Form of a generic manager at the Project level
- Changes to the DEs in a BP Detail form under the Shell level can result in changes to the Record Attribute Form of a generic manager at the Shell level

Creating Sheets and Records for a Code and Records-based Manager (Standard View)

You can use the **Create** option to create a new Code and Records-based sheet by way of the following methods:

- **Manually:** Read the process for manually creating a sheet, below.
- **From Template:** This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (Admin mode).
- **From Shell:** When you select this option, the system opens a window which lists all the shells that the administrator has created. You can copy a configurable manager sheet from a shell that is listed.

To create a Code and Records-based sheet manually:

1. Select **Create**, and select **Manual** to open the create sheet window.
2. In the overlay, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "Inactive," or both in the **Records with statuses** field. The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.
3. When finished, from the top, select **Save**.
4. Select **Save** on the create sheet window.

You can use the **Create** option to create a new Code and Records-based class.

Important Information about Creating a Record in a Code and Records-based Sheet Manually

As a general rule, the system disables the fields used in the formula definition of CMx coding structures. As a result, after you create a record in a Code and Records-based sheet manually, you cannot modify the CMx coding structures that compile (roll up) the data. In some special cases, such as when a data picker is used to modify the fields used in the formula definition of CMx coding structures, you can modify the CMx coding structures. Also, after you create a record in a Code and Records-based sheet manually, and the record contains a formula field that is being auto-populated from another field (source field), you must ensure that you do not modify the value of the source field; otherwise, if you change the value of the source field, the fields used in the formula definition of CMx coding structures will be modified. See the following examples:

Example 1 (No rollup issue)

Material SKU is a data picker

Material Category is auto-populated from Material SKU

Material Code (CMx code) that rolls up to the Sheet = Material Category<umatCategoryPD> + Material SKU #<umatSKUMtrDP>

Material Category is auto-populated with Material SKU and Material SKU is part of the formula that makes up the Material Code.

So, Material Category and Material SKU are disabled.

Example 2 (Rollup issue)

Material SKU is a data picker

Material Name is auto-populated from Material SKU

A1 = Manual entry

Material Code (CMx code) that rolls up to the Sheet = Material Name + A1

Material Name and A1 are used in Material Code formula. So, Material Name and A1 are disabled.

However, Material SKU is not disabled as it is not used directly used in Material Code formula. So, if you change the value of Material SKU data picker (which is not disabled), it will change the value of Material Name through auto-population. Material Name which is part of Material Code will now be modified. As a result, the roll up of data seen in the CMx Sheet will be incorrect.

Creating Sheets for a Code-based Manager (Standard View)

You can use the **Create** option to create a code-based configurable manager sheet:

- **Manually:** Read the process for manually creating a sheet, below.
- **From Template:** This option enables you to create a configurable manager from a template. This option is available only if one or more configurable manager templates are defined at **Company Workspace** (Admin mode). If no templates are defined, this option will not be available. If you do not have create permission, this option is disabled. In this scenario, you can access rows or create more rows irrespective of the way that a sheet is created, manually or by template.
You cannot modify the segment sources. Creating a sheet by way of a template enables you to access the sheet rows.
- **From Shell:** When you select this option, the system opens a window which lists all the sheets that can be copied from other shells that the administrator has created.

To create a code-based configurable manager sheet manually:

1. Select **Create**, and select **Manual** to open the create sheet window.
2. In the **Properties** tab, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "Inactive," or both in the **Records with statuses** field.
The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.
3. Select the **Segments** tab, and add segments.

You can add multiple segments by selecting the plus icon (+). When you select the plus icon (+), the system inserts a new row on the grid. After you add a row, you must select the cell under the **Segment Source** label and select a source, which has been designed in uDesigner. You can use drag-and-drop to move the segments. To delete a segment, select the segment row, and select Delete . The **Segments** tab has a grid that is similar to the grid and fields of the Line Items in BPs.

4. When finished, from the top, select **Save**.
5. Select **Save** on the create sheet window.

Working with Configurable Manager Sheets (Classic View)

The following topics describe how to use configurable manager sheets.

Create a new sheet from an existing template

You can create a sheet by copying an existing template from the same class.

To copy an existing template:

1. Select a class template from the log.
2. To copy a template, do one of the following depending on which level the template is:
 - At the company level, select **Copy**, and then select **Template**.
 - At the project level, select **Copy**, and then select **Project**.
 - At the shell level, select **Copy**, and then select **[shell name]**.

The Properties window opens with the information from the original template.

3. Make changes as needed in the Properties window, and select **OK** to create the new sheet.

Add columns to a sheet

If you have created permission, you can add columns, but not rows, to a Configurable Manager sheet template. The columns can capture data from business processes or manually entered data.

To add a column to a sheet:

1. Open the sheet.
2. Select **Columns**. The Columns log opens.
3. Select **New**. The Column Properties window opens. Complete the window as described in the table below.

In this field:	Do this:
Name	The Name field is populated with the data source value selected.

In this field:	Do this:
Datasource	Select a data source. The data sources available are data elements that are defined in the detail form for a class in uDesigner. Also listed are data elements based on SYS Numeric Logical Datasource, SYS Date Logical Datasource, SYS Project Cost Datasource, SYS BP Currency Amount, SYS BP Decimal Amount, and SYS BP Integer Amount data definitions.  Note You can add data picker fields as columns, but you cannot invoke the data picker from the sheet.
Width (pixels)	Enter the width the column should be. Maximum is 2000 pixels. (You can also manually resize the columns on the sheet.)
Alignment	Specify whether the data in the column should be left- or right-aligned or centered.
Entry Method	Choose a data entry method for the column. The options vary depending on the data source selected: • Manual entry: You can enter data directly into the cell, or data is rolled up from another source, such as the form. • Formula: Formula types are numeric, date difference, and date add. See Add a formula column for details on working with formulas. • Define: Use this method to specify data that should roll up from line items. Select Define and in the Formula Creation window, select the business processes and fields whose values should roll up to the manager sheet. You can select single fields to roll up, or you can add several fields together for a combined roll up amount.

In this field:	Do this:
Data Format	Specify how the column data appears for numeric columns. The options are: • Show as Percentage: Data entered in a column is displayed as a percentage. For example, if you enter 0.25, it displays as 25%. When entering the percentage values in your sheet, if you are working in Classic View, enter the value by using decimal number format. For example, for ten percent, enter: 0.1, and if you are working in Standard View, enter the value by using percent format. For example, for ten percent, enter: 10%. The value that the system uses to validate the value of the Percentage column, when applicable, will be: 0-100. • Decimal Places: Select the number of decimal places to display (0 to 8). • Use 1000 Separator (,): If you select this option, the entered data is formatted with a separator for numbers with more than three digits. For example, 1,000 rather than 1000. • Negative Number Format: Specify if negative values are displayed with a negative sign or in parentheses.
Display Mode	Select Hide to make the column invisible to users. Select Show to display it. You can show/hide any column on the sheet, including the code name column.
Summary Rows	Specify what the summary rows display. • Blank: Summary row remains blank. • Sum of All Rows: Summary row displays the sum total of all row values for this column. • Use Formula Definition: Formula entered in the Formula field applies to the summary row.
Total	Specifies what displays in the bottom summary row for each column: Blank: Summary row remains blank. Sum of All Rows: Summary row displays the sum total of all row values for this column. Use Formula Definition: Formula entered in the Formula field applies to the summary row.
Column Position After	Determines the position of the column on the sheet.

To copy a column:

1. In the Column log, select a column, and select **Copy**.
2. The Column Properties window opens. Make changes as necessary for the new column. You must change at least the data source.

View column properties

The Properties window for a column maintains the column name, data source, entry method, and other properties for that column.

To open the column properties window:

In the sheet, select a column link. The View Column window opens, showing the data source from which the column values are gathered and the data entry method, including any formula used to calculate the values.

Add a formula column

You can add a formula column to the sheet for data sources that are based on either the data definitions SYS Numeric Logical Datasource or SYS Date Logical Datasource.

You can define formulas for the following types:

- **Numeric:** This option is available if the data source is SYS Numeric Logical.
- **Date Difference:** This option is available if the data source is SYS Numeric Logical. It is used for formulas that calculate the difference between two dates.
- **Date Add:** This option is available if the data source is SYS Date Logical. It can be used to add values to a date to calculate a new date.

To create a Numeric formula:

1. In the column Properties window, choose **Formula** and select **Numeric**.
2. Select **Create**. The Create Formula window for numeric formulas opens.
3. Select either **Item** or **Sheet** from the data type drop-down list. Item lists data elements that are defined on the form. Sheet lists columns that are already defined on sheet.
4. Build a formula by doing the following:
 - To include a data source in the formula, select the data source from the list, and click **Select**.
 - Select a mathematical modifier (plus, minus, and so on) and numbers on the keypad.
5. When the formula is complete, select **OK**.

To create a Date Difference formula:

1. In the column Properties window, choose **Formula** and choose **Date Difference**. Select **Create**. The Date Difference window opens.
2. For Earlier Date and Later Date, click **Select**. Select a data element. The list includes date type data elements from the form or existing date type columns on the sheet.
3. Choose one of the following:
 - **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.
 - **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.
 - **Show Partial Day**
4. Select **OK**.

To create a Date Add formula:

1. In the column Properties window, choose **Formula** and choose **Date Add**. Select **Create**. The Date Add window opens.
2. For the **Date** field, click **Select**, and choose a data element from the list.
3. For the **Add** field, click **Select**, and choose a data element from the list.
4. Choose one of the following:

- **Calculations based on Calendar Days:** The calculation is based on calendar days and does not take company non-working days into account.
 - **Calculations based on Work Days:** The calculation is based on the company calendar working and non-working days.
5. Select **OK**.

Open a sheet

Manager sheets are listed on the Sheet log of the configurable manager.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

To open a sheet for a code-based manager:

1. Go to the shell tab in which the manager resides and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**.
The Navigator expands to display the configurable managers that have been created for this project/shell.
3. Select the configurable manager you want to work in. The system displays the sheets log.
4. On the sheets log, double-click the name of the sheet. The system opens the sheet.

To open a sheet for a Code and Records-based manager:

1. Go to the shell tab in which the manager resides and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**.
The Navigator expands to display the configurable managers that have been created for this project/shell.
3. In the left Navigator, select the name of the manager you want to work in. The Navigator expands to display a Sheets node.
4. In the left Navigator, select the **Sheets** node. The system displays the sheets log, listing a sheet for every class created for the manager.
5. On the sheets log, double-click the name of the sheet. The system opens the sheet.

View record details

To view the details of a listed record, select the record. A view-only window opens displaying the record details.

View sheet properties

The Properties window for the sheet maintains the name and display options. It can be used to map a column to a company account code.

To open the sheet Properties window:

In the Sheets log, select the sheet, and select **Properties**.

- The General tab is described in the following table.
- In the Options tab, sheet columns can be mapped to company account codes.

Expand or collapse the sheet rows

For convenience in viewing sheet data, you can expand and collapse the rows to expose and close sub-items on the sheet.

Drill down to more data

From the sheet, you can use the blue hyperlinks to drill down to additional detail about the item.

View or edit code details

Each row item on the sheet is identified by a code, which is in the first column on the sheet. The code is hyperlinked. If you want to see more details about a row item, select **Link**.

Code-based manager and record-based manager

The system displays a read-only copy of the Detail form, or the attribute form, for that item. You cannot edit the displayed form because the manager retrieves the information from the records that have been created, automatically.

The sheet for a code-based manager is designed to be dynamically editable, so you can edit the fields that are not read-only (grayed out). For a code-based manager, the system displays the Code Details window which shows the fields from the manager attribute form. Note that the "Code" field is not editable.

If the field appears as a column on the sheet, any changes that you make to the field (in the Code Details window) will appear on the sheet. Reciprocally, any changes you make on the sheet will also appear on the Code Details window, for the item.

View rollup data

For Code and Records-based managers, BP line item data, such as costs and quantities, can be configured to roll up to the manager sheet from across shells. Cells that contain rolled-up data will show a hyperlinked value. Every transaction will include an ID that includes the project/shell number where the BP Record was created. You can select this hyperlink to open a cell details window and view all the business process transactions that contributed to the rollup. Double-click a transaction to open the original BP Record in view mode.

Sort the sheet content

If the manager sheet is in flat mode (that is, it lists the codes in a flat structure, rather than hierarchically), you can sort the content on the sheet by column. By default, the system shows column data in ascending order.

To sort column data:

Select the column heading. The system will redisplay the data in that column in descending order. To return the column data to ascending order, select the heading again.

Filter the sheet content

Some managers, particularly those configured to function across shells, can accumulate a substantial amount of data. To make viewing this data easier, you can create filters to restrict the content of the sheet.

To create a filter:

1. Open the sheet.
2. From the **View** menu, choose **Filters**. The Setup Filters window opens.
3. Select **Add**. The Add Filter window opens.
4. In the **Filter Name** field, enter a name for this filter.
5. Select **Add**. The Query Condition window opens.
6. In the **Data Element** field, enter the name of the field you want to appear on the manager sheet.
The values in the field must meet a condition (such as "equals" or is "greater than") to be included on the sheet.

Depending on the data element you enter, the Query Condition window will display variable fields.

Select the **Show result matching ANY condition** checkbox if you want the field to meet any one of the conditions in the filter, rather than meeting all filter specifications.

Select the **Display Summary Rows** checkbox if you want to see the summary rows recalculated based on the filtered view of the sheet.

7. Select **OK**, or select **Apply Filter** to filter the sheet content.

To apply a filter to a sheet:

1. Open the sheet.
2. From the View menu, choose **Filters**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.
3. Select the filter you want to use, and select **Apply Filter**.
The system displays a filtered view of the manager sheet. While in a filtered view, you can use all sheet functions except Export and Import.

If you want to redisplay all the rows on the sheet, you can clear the filter by choosing **ClearFilters** from the **View** menu.

To edit a filter:

1. Open the sheet.
2. From the View menu, choose **Filters**. The Setup Filters window opens, showing a list of the filters that have been created for the sheet.
3. Select the filter you want to edit, and select **Edit**.

Enter sheet data

For manual data-entry columns, you can enter data directly into the sheet.

To enter data on a sheet:

1. Open the sheet.
2. Click inside a manual-entry cell, and enter the data.
3. Select **Save**.

Edit sheet data

You can perform some editing on the sheet itself. Columns are designated with an entry method when they are added to the sheet. If the column specified "manual entry," you can enter data directly into that column on the sheet. If you change a field value on the sheet, the system will also change the field on the item's attribute or detail form.

Note

The name of the row item is always editable. The code, however, is never editable.

To enter data on a sheet:

1. Double-click inside a manual-entry cell. The system will highlight the cell data and open a text box.
2. Enter the data in the text box, and select **Save**.

Create and view a snapshot

You can take a snapshot of a sheet to keep as a record and view later.

To create a snapshot:

1. Open the sheet.
2. Select **File**, and then select **Create Snapshot**. The Create Snapshot window opens.
3. Enter a title, and select **OK**.

To view a saved snapshot:

1. Open the sheet.
2. Select **View**, and then select **Snapshot Log**. The Snapshot log opens.
3. Select a snapshot from the list, and select **Open**. A read-only view of the sheet opens, displaying the sheet data at the time of the snapshot.

Copy data to another column

You can copy data from one manual-entry column to another.

To copy data from one column to another:

1. Select **Edit**, select **Copy**, and then select **Column Data**. The Copy Column Data window opens.
2. Select the manual-entry column to copy, the percentage value, and the column to which to copy.

3. Select **Copy**.

Search for records on a sheet

To search for records:

1. Open the sheet.
2. Select **Find**. The Find window opens.
3. Select the search criteria:
 - **Column:** Choose a column from the sheet.
 - **Value:** Enter a value to search.
 - **Search:** Select the direction to search from the selection on the sheet.
4. Select **Find Next** to search for the entered value. You can select **Find Next** again to continue searching.
5. Select **Cancel** to cancel the search.

Export sheet data

You can export data from columns that have been manually entered to a CSV file. The data is for reference only and cannot be re-imported.

To export columns from a sheet:

1. Open the sheet.
2. Select **Export**, and choose **Codes** (for code-based managers only) or **Column Details**.
3. Select the columns to export, and select **OK**.
4. Save the CSV file to your local drive.

Import sheet column data

You can enter data into manual-entry columns by importing a CSV sheet. The column must be configured on the record detail form to accept numeric data elements.

To import column data:

1. In the CSV file, enter data for each listed record. Be careful not to change the CSV file structure.
2. Save the CSV file.
3. Open the sheet to which you want to import the data.
4. Select **Import**, and choose **Codes** (for code-based managers only) or **Column Details**.
5. Browse to the CSV file containing the column data, and select **OK**.

Note

You cannot delete summary rows from the sheet using a CSV import. You also cannot delete existing rows using CSV import if their codes have been added to business processes.

Working with Configurable Manager Sheets (Standard View)

The configurable managers are nested under the **Configurable Modules** as shown below:

Configurable Modules

- <name> Manager [Code-based configurable manager]
- <name> Manager [Code and Records-based configurable manager]
 - Sheets
 - Class

The following explains applicable actions for each sub-node.

Add Columns or Rows to a Sheet

The following explains how to add columns or rows to a sheet, where applicable.

Configurable Modules: <name> Manager [Code-based configurable manager]**Note**

You must have the "Create" permission to proceed with adding columns or rows.

To add columns to a code-based configurable manager sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side).
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Add Column**  to open the **Add Column** window.
5. Enter values in the fields that are displayed.
6. After you are finished, select one of the following options:
 - **Cancel**: To cancel the changes and close the window.
 - **Save**: To save your work for creating a new column.
 - **Save & Add New**: To save your work and begin creating a new column.

To add rows to a code-based configurable manager sheet:

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side).
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Add Row** () to open the **Add Row** window.
5. Enter values in the fields that are displayed.
6. After you are finished, select one of the following options:
 - **Cancel**: To cancel the changes and close the window.
 - **Save**: To save your work for creating a new row.
 - **Save & Add New**: To save your work and begin creating a new row.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

Note

You must have the "Create" permission to proceed with adding columns. You cannot add rows. The columns can capture data from business processes or manually entered data.

To add columns to a Code and Records-based configurable manager sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Add Column**  to open the **Add Column** window.
5. Enter values in the fields that are displayed.
6. After you are finished, select one of the following options:
 - **Cancel**: To cancel the changes and close the window.
 - **Save**: To save your work for creating a new column.
 - **Save & Add New**: To save your work and begin creating a new column.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

You can only create new **<name> Manager [Code and Records-based configurable manager]-Class**.

Fields

The following details some of the fields:

In this field:	Do this:
Name	The Name field is populated with the data source value selected.
Datasource	Select a data source. The data sources available are data elements that are defined in the detail form for a class in uDesigner. Also listed are data elements based on SYS Numeric Logical Datasource, SYS Date Logical Datasource, SYS Project Cost Datasource, SYS BP Currency Amount, SYS BP Decimal Amount, and SYS BP Integer Amount data definitions.  Note You can add data picker fields as columns, but you cannot invoke the data picker from the sheet.
Type	
Data Format	Specify how the column data appears for numeric columns. The options are: • Show as Percentage: Data entered in a column is displayed as a percentage. For example, if you enter 0.25, it displays as 25%. When entering the percentage values in your sheet, if you are working in Classic View, enter the value by using decimal number format. For example, for ten percent, enter: 0.1, and if you are working in Standard View, enter the value by using percent format. For example, for ten percent, enter: 10%. The value the system uses to validate the value of the Percentage column, when applicable, will be: 0-100. • Decimal Places: Select the number of decimal places to display (0 to 8). • Use 1000 Separator (,): If you select this option, the entered data is formatted with a separator for numbers with more than three digits. For example, 1,000 rather than 1000. • Negative Number Format: Specify if negative values are displayed with a negative sign or in parentheses.
Display Mode	Select Hide to make the column invisible to users. Select Show to display it. You can show/hide any column on the sheet, including the code name column.
Summary Rows	Specify what the summary rows display. • Blank: Summary row remains blank. • Sum of All Rows: Summary row displays the sum total of all row values for this column. • Use Formula Definition: Formula entered in the Formula field applies to the summary row.

In this field:	Do this:
Total	Specifies what displays in the bottom summary row for each column: Blank: Summary row remains blank. Sum of All Rows: Summary row displays the sum total of all row values for this column. Use Formula Definition: Formula entered in the Formula field applies to the summary row.
Column Position After	Determines the position of the column on the sheet.

You cannot copy a column.

View Column Properties

The following explains how to open the column properties for each configurable manager.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view the column properties:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side).
3. Double-click the sheet to open the sheet log that displays the columns.
4. In a column, select a cell that has a link. The screen will divide in half and the lower portion of the screen displays the following tabs which provide details about the cell:
 - **General**
 - **Audit Log**
 - **Transactions**
 - **Cell Details**

Select and drag the three dots on the border of the two screens to resize the windows, or select once to open and close the right pane.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To view the column properties:

1. Go to your **<name> Code and Records-based configurable manager]-Sheets**. The log displays a list of sheets.
2. In a column, select a cell that has a link. A new window opens and the screen will divide in half. The properties pane (right side of the window) contains the following tabs which provide details on each cell:
 - **Comments**

- **Linked Records**
- **Linked Mail**
- **Audit Log**

To expand the properties pane, select **Maximize** . To minimize it, select the icon again.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To view the column properties:

1. Go to your **<name> Manager [Code-based configurable manager]-Class**. The log displays a list of sheets and the corresponding properties (on the right side).
2. Double-click the sheet to open the sheet log that displays the columns.
3. In a column, select a cell that has a link. The screen will divide in half and the lower portion of the screen displays the following tabs which provide details about the cell:
 - **General**
 - **Audit Log**
 - **Transactions**
 - **Cell Details**

Select and drag the three dots on the border of the two screens to resize the windows, or select once to open and close the right pane.

Open a Sheet

Manager sheets are listed on the sheet log of the configurable manager.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To open a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side).
3. Double-click the sheet to open the sheet log that displays the columns.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To open a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To open a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select the class sub-node (**<name> Manager [Code and Records-based configurable manager]-Class**) to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.

View Record Details

To view the details of a listed record, select the record. A view-only window opens displaying the record details.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view record details:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side), **Properties** tab.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To view record details:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable**

manager]]), and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log.

3. Select a record to see the corresponding properties (on the right side), **Properties** tab.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To view record details:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select the class sub-node (**<name> Manager [Code and Records-based configurable manager]-Class**) to open the log.
3. Select a record to see the corresponding properties (on the right side), **Record Details** tab.

View Sheet Properties

The following explains how to view the properties of a sheet.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To view the properties of a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, expand the **Configurable Modules** node.
3. Select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side), **Properties** tab.
4. Double-click the sheet to open the sheet log that displays the columns.
5. From the toolbar, select **Menu Options** (), and select **Properties**.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To view the properties of a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable**

manager]]), and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log.

3. Select a record to see the corresponding properties (on the right side), **Properties** tab.
4. Double-click the sheet to open the sheet log that displays the columns.
5. From the toolbar, select **Menu Options** (), and select **Properties**.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To view the properties of a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]]**), and then select the class sub-node (**<name> Manager [Code and Records-based configurable manager]-Class**) to open the log.
3. Select a record to see the corresponding properties (on the right side), **Record Details** tab.

Filter Sheet Content

Some managers, particularly those configured to function across shells, can accumulate a substantial amount of data. To make viewing this data easier, you can create views that filter (restrict) the content of the sheet.

You can use the **View** option to access created views, create views, or update the existing views. The views that have been created, including **Default**, are listed in the upper segment of the drop-down list. The lower segment of the list includes the **Create New View** and **Manage Views** options.

To create a view:

1. Select **Create New View**.
2. Use the **Save** option to name your new view.
3. Use the following tabs for adding columns and filtering, grouping, and sorting information:
 - **Columns** tab
 - **Filters** tab
 - **Group By** tab
 - **Sort By** tab
4. Use the **Columns** tab to select the columns that you want displayed in the view. The **Available Columns** box displays all the columns that you might want to include. The **Selected Columns** box displays all the columns that you select. You can move columns in and out of the **Selected Columns** box.

Use the following fields to set the position of the new view:

- **Left Lock after Column:** Displays a list of all columns, except the last column from the selected columns list. By default, **None** is selected, which means that you have chosen no column to be locked, from the left side of the sheet.

- **Right Lock after Column:** The default value is **None**, which means that you can select not to right-lock the column in the view. Other values in this field are based on the value that you have selected in the **Left Lock after Column**.
5. Use the **Filters** tab to control what information is displayed in the selected view. You can add multiple filters to a view, and you can use the same data element multiple times. When adding multiple filters, you can use operators to specify that the view must match all listed filters or that it can match one or more of the listed filters.
 - a. Select **Add Filter**.
 - b. Choose a **Data Element**: This drop-down list displays all data elements that are on the attribute form. Any data elements in a hidden block are not available.
 - c. Choose a **Condition**: This drop-down list displays a list of conditions. This list is based on the type of data element selected.
 - d. Choose a **Value**: Depending on the type of data element, choose a value that the query condition must meet.
 - **Data Element**: Lists the data elements on the attribute form.
 - **Constant Value**: You can enter a full or partial entry of the value to filter by. This is similar to entering search criteria.
 6. To add additional filters, select **Add Filter** again, and repeat the preceding steps. You can use the same data element multiple times.
 7. If you are using multiple filters, select the applicable operator that should apply:
 - **And**: If you want to specify that the view must match all listed filters, select **And**.
 - **Or**: If you want to specify that the view should match any of the listed filters, select **Or**.
 8. Use the **Group By** and **Sort By** tabs to identify which columns should be used for group and sorting and in what order.
 9. When you are done, select **Save**.

To manage a view:

To update a view, select the applicable view from the **View** list, select **Edit View** , and then make and save the applicable changes.

To modify or remove a filter:

1. From within the applicable view, select **Edit View** , and select the **Filters** tab.
2. Make the applicable changes, such as changing the selected **Data Element** or **Condition**, updating the **Value**, or removing one or more of the filters from a set.
3. To save your changes, select **Save** or **Save As**.

Create and View a Snapshot

You can take a snapshot of a sheet to keep as a record and view later.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

You cannot create a snapshot.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To create and view a snapshot:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Menu Options** (), and select **Snapshots**.
5. Select one of these options:
 - **Create**
When you select **Create**, the **Save As Snapshot New** window opens which enables you to create a snapshot by entering the snapshot title and selecting **OK**.
 - **Open**
To open and view an existing snapshot, if available.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

You cannot create a snapshot.

Export Sheet Data

You can export data from columns that have been manually entered to a CSV file. The data is for reference only and cannot be re-imported.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To export sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log

displays a list of sheets and the corresponding properties (on the right side), **Properties** tab.

3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Menu Options** (), and select **Export**.
5. Select one of the following options:
 - **Codes:** To export a Microsoft Excel Comma Separated Values File.
 - **Column Data:** To export column details.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Sheets

To export sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Menu Options** (), and select **Export**.
5. Select one of the following options:
 - **<sheet name> Summary Sheet:** To export a Microsoft Excel Comma Separated Values File.
 - **Column Data:** To export column details.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To export sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]**), and then select the class (**<name> Manager [Code and Records-based configurable manager]-Class**) to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Actions**, and select **Export CSV Template**.
5. Follow the prompts to complete the export.

Import Sheet Column Data

To import column data:

1. In the CSV file, enter data for each listed record. Be careful not to change the CSV file structure.

2. Save the CSV file.
3. Open the sheet to which you want to import the data.
4. From the toolbar, select **Menu Options**.
5. Select **Import**, and choose **Codes** (for code-based managers only) or **Column Details**.
6. Browse to the CSV file containing the column data, and select **Import**.

Note

You cannot delete summary rows from the sheet using a CSV import. You also cannot delete existing rows using CSV import if their codes have been added to business processes.

You can enter data into manual-entry columns by importing a CSV sheet. The column must be configured on the record detail form to accept numeric data elements.

Note

You must have permissions to access a sheet. If you need access to a sheet not listed in the log, contact your company administrator.

Configurable Modules: <name> Manager [Code-based configurable manager]

To import sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, and then select your code-based configurable manager (**<name> Manager [Code-based configurable manager]**). The log displays a list of sheets and the corresponding properties (on the right side), **Properties** tab.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Menu Options** (), and select **Import**.
5. Select one of the following options:
 - **Codes:** To import by opening a local folder and selecting a file.
 - **Column Data:** To import column details.

Configurable Modules: Generic Cost Manager

For **Generic Cost Manager (CM0 or CM zero)**, see [Generic Cost Manager](#).

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-
Sheets

To import sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable**

manager]], and then select **Sheets (<name> Manager [Code and Records-based configurable manager]-Sheets)** to open the log. The log displays a list of sheets.

3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Menu Options** (), and select **Import**.
5. Select **Column Data** to import column details.

Configurable Modules: <name> Manager [Code and Records-based configurable manager]-Class

To import sheet data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Modules**, select your Code and Records-based configurable manager (**<name> Manager [Code and Records-based configurable manager]]**), and then select the class (**<name> Manager [Code and Records-based configurable manager]-Class**) to open the log. The log displays a list of sheets.
3. Double-click the sheet to open the sheet log that displays the columns.
4. From the toolbar, select **Actions**, and select **Import** to open the **Upload CSV** window and select a file.

Working with Configurable Manager Logs (Standard View)

The following topics describe how to use configurable manager sheets in Standard view. In particular, this section explains how to access, review, and create both code-based and Code and Records-based configurable managers.

Code-Based Managers Log (Standard View)

The code-based configurable manager log is divided into two panes, left and right. The following explains the left pane elements of the log.

Left pane elements:

- **Toolbar: Create**
This option is available if a sheet has not been created. After you create a configurable manager sheet, there will be no toolbar options.
- **Column: Title, Description, and Last updated**

Right pane elements:

This right pane is blank for an empty log. When you create a sheet, the right pane displays the Properties tab that captures the details of the sheet.

- **Properties** tab
 - **Title**
 - **Description**
 - **Display Mode**
 - **Default Filter View**
 - **Picker**
 - **Segments**

- Expand toggle key
To expand the tab window.

Creating a Code-Based Configurable Manager Sheet (Standard View)

You can use the **Create** option to create a code-based configurable manager sheet:

- **Manually:** Read the process for manually creating a sheet, below.
- **From Template:** This option enables you to create a configurable manager from a template. This option is available only if one or more configurable manager templates are defined at **Company Workspace** (Admin mode). If no templates are defined, this option will not be available. If you do not have create permission, this option is disabled. In this scenario, you can access rows or create more rows irrespective of the way that a sheet is created, manually or by template.
You cannot modify the segment sources. Creating as sheet by way of a template enables you to access the sheet rows.
- **From Shell:** When you select this option, the system opens a window which lists all the sheets that can be copied from other shells that the administrator has created.

To create a code-based configurable manager sheet manually:

1. Select **Create**, and select **Manual** to open the create sheet window.
2. In the **Properties** tab, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "Inactive," or both in the **Records with statuses** field.
The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.
3. Select the **Segments** tab, and add segments.
You can add multiple segments by selecting the plus icon (+). When you select the plus icon (+), the system inserts a new row on the grid. After you add a row, you must select the cell under the **Segment Source** label and select a source, which has been designed in uDesigner. You can use drag-and-drop to move the segments. To delete a segment, select the segment row, and select Delete . The **Segments** tab has a grid that is similar to the grid and fields of the Line Items in BPs.
4. When finished, select **Save**.
5. Select **Save** on the create sheet window.

Code and Records-based Managers Log (Standard View)

Sheets

The sheets log is divided into two panes, left and right. The following explains the left pane elements of the log.

Left pane elements:

- Toolbar: **Create**, **Find on Page**, and **Print**
Empty log has one option on the toolbar: **Create**.

A non-empty log, in which sheets for all classes within the manager have not been created, has three options on the toolbar: **Create**, **Find on Page**, and **Print**.

A log in which sheets for all classes have been created shows the options: **Find on Page**, **Print**.

- Columns: **Title**, **Description**, **Class**, and **Last updated**

Right pane elements:

This pane is blank for an empty log. When one or more sheets have been created, this pane shows a tab that captures the properties of a selected sheet.

- **Properties** tab
 - **Title**
 - **Description**
 - **Class**
 - **Display Mode:** To determine how the entries in a sheet are going to be displayed.
 - **Default Filter View**
 - **Picker**
- Expand toggle key
To expand the tab window.

Class

The class log is divided into two panes, left and right. The following explains the left pane elements of the log.

Left pane elements:

- Toolbar: **Create**, **Actions**, **View**, **Edit View**, **Refresh**, **Print**, **Search**, **Find on Page**, and **Help**
- Column: **Attachments** and class-related titles

Right pane elements:

- **Record Details** tab which displays all the details related to the highlighted class.
- Expand toggle key: To expand the tab window.
- Tooltip: If an attribute form is present, you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

You can:

- Use the Actions option to perform:
 - Import: To import a CSV file to create records in bulk.
 - Export CSV Template: Same as: Selecting Export Template, and then selecting CSV. To export a CSV template.
 - Bulk Edit: You must have permission to perform a bulk edit (similar to the same option in the non-Workflow BP record log).
- Print the log based on the current view. This would output a report similar to a UDR. You can use the print functionality to print the CM Class log. When you select Print, the system displays a Print Preview in HTML format.
- The layout of the printed information is based on the view. This means that the column order, columns displayed, applied filtering conditions, and so on will all be printed. You can print all pages.

Note

If you select a record and the record summary is displayed, this information will not be included as part of the log print.

- Select the order of the columns in the log and define which columns must be visible.
- Sort on one or many columns within the log.
- Search the parameters displayed on the search window have all been configured in uDesigner. Search user interface and logic is similar to the search function in the non-Workflow BP record log).
- Group based on one column, or up to 3 columns, and define how the groups are sorted and how rows are sorted within the groups.
- Apply filters to individual columns.
- Lock columns so that they are fixed on the left side and the remaining columns scroll on the right side.
- The Help option to view the CM Class specific help, which has been set up by the Administrator. The tool tips for this icon are:
 - <Class Name> help
 - User Productivity Kit
- Use the *gear menu* (⚙️) for each record to:
 - Open: To open a record.
 - Copy: To copy a record.
 - Print-HTML
 - Print-PDF
 - Print-Custom

The system default for viewing Code and Records-based records is **All Records**. Your other options are:

- **Records Created by Me**
- **Create New View:** You can create views by selecting the **Create New View** option. Similar to the Tasks log view creation, the New View window has the following tabs:
 - Columns
 - Filters
 - Group By
 - Sort By
- **Manage Views:** Use Manage Views to manage the user-defined views and the default out-of-the-box (OOTB) views.

Note

- The system uses the Classic View of the log (of the CM class) for the view definition.
- Certain restrictions are placed for the view options provided OOTB.

The views, based on the designs, provide the following information:

Columns: The column layout, based on the uDesigner layout.

Sort By: Based on the Sort Order, in the uDesigner Sort Order.

Find: All search parameters in the **Find** are in the Filter page of the view.

Navigation: Standard view does not display the navigation structure elements that are defined in uDesigner.

CM Class Record

You view the CM Class record summary from the logs.

Visibility of the panel

The Panel is displayed when you select a record.

The details in the panel are available only when a single record is selected.

When multiple records are selected, the panel displays the following content:

Details of multiple records cannot be viewed.

Content displayed in the Panel

The detail form of the CM Class attribute.

The Panel consists of one tab: **Record Details**.

Use maximize option to view the record details in the full screen mode. When the full screen mode is active, the screen occupies the right section. Select minimize to return to the previous screen.

The record details contain the layout, block description, and so on. This option is available in View only mode.

The picker type fields are displayed with just the values. There will be no hyperlinks. Select maximize to view this in an expanded form.

Group By row highlighted

When Group By row is highlighted, the right section does not display any details.

When you select the CM Class log, a log similar to the log of a non-Workflow BP record appears. You can double-click a record to open it. The following explains the log options.

Columns

As set of predesigned columns and labels. You can adjust the columns in the log as follows:

- **Visibility:** Right-click the column header and select to hide the column.
- **Reposition:** Drag and drop.
- **Resize:** The system keeps your adjustments without saving.

- Locking: Use the view option.

Note

When you adjust the columns in the log, you modify the view settings. The system does not save your view automatically, except where it is noted. You can save the view using the "Save as" option. The application saves the column width adjustments that are made on top of the default settings (in uDesigner); however, you can change the width of a column.

The column marked with the "x" icon captures the errors if you attempt to save the grid with incorrect entries. This function is similar to the errors column in the BP Detail Form grid entry.

Row Number: This is a read-only column. This column does not have a header. As you insert new rows, delete rows, or reorders rows, the row numbers throughout the grid gets updated accordingly.

Segment Source: This is an editable, type-ahead and drop-down field. The drop-down values are the same as in the Classic View.

Delete Row: This column does not have a header. This column displays a delete icon for each row. Selecting the icon deletes the selected row.

Drag Row: This column does not have a header. This column displays the reorder icon. You can select multiple rows and drag them to another position.

Creating a Code and Records-based Configurable Manager Sheet (Standard View)

You can use the **Create** option to create a Code and Records-based manager sheet:

- **Manually:** Read the process for manually creating a sheet, below.
- **From Template:** This option enables you to create a configurable manager from a template. The **From Template** option is available only if one or more configurable manager templates are defined at **Company Workspace** (Admin mode).
- **From Shell:** When you select this option, the system opens a window which lists all the shells that the administrator has created. You can copy a configurable manager sheet from a shell that is listed.

To create a Code and Records-based sheet manually:

1. Select **Create**, and select **Manual** to open the create sheet window.
2. In the overlay, enter the values. You can also edit existing values in the **Properties** tab, for example, change the **Picker** field value from **All Records** to records with their statuses set as "Active," "Inactive," or both in the **Records with statuses** field.
The **Default Filter View** drop-down field does not have any values when you create a new sheet. This field has a value for an existing sheet and can be changed.
3. When finished, from the top, select **Save**.
4. Select **Save** on the create sheet window.

You can use the **Create** option to create a Code and Records-based class.

Bulk Editing Configurable Manager Records

If you have many records that need the same edits, you can use **Bulk Edit** to update all the records at once. You can update up to 200 records at a time. Bulk editing must be defined in uDesigner, and you must have the **Allow Bulk Edit** permission set for the manager.

Note

You cannot bulk edit codes or names.

To update records using bulk edit:

1. Navigate to the Configurable Manager log.
2. Select one or more records or use **Find** to search for a group of records with specific criteria. You can select the records from the class log or the Find log.
3. From the **Edit** menu, select **Bulk Edit**. The Bulk Edit window opens. The fields displayed depend on what is specified in uDesigner for detail form integration for the class.

Note

Bulk edits overwrite data without asking you to verify each change. Be sure that you have entered the data you want to edit correctly.

4. The Bulk Edit form includes all editable fields for the detail form. Modify the Bulk Edit form as needed.
5. Select the **Update** checkbox for the fields that you want to update. The checkbox is automatically selected when you type in a field. You can deselect it if you do not want to modify the field.
6. To start the bulk update of the selected records, select **Update**. The Bulk Actions Status window displays the progress of the update.
7. Select **OK** after all records have processed. Select **Cancel** if you want to cancel the bulk update in progress.

Printing a Configurable Manager Form

You can print a copy of the record form for Code-based manager and record-based manager. You can choose PDF, HTML or Custom print formats and select one of the following options:

- Save a copy of the form as a PDF file and print the file
- Print an HTML view
- Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the Oracle Analytics Server custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Configurable Manager, the form will print according to the layout that you select. For more information, see [Printing Options - Custom Format](#).

To preview and print a Configurable Managers form:

1. Open a Configurable Managers record that you want to print.
2. From the **File** menu, choose **Print Preview**, and then choose one of the following:

- **HTML** to view the form in the browser which can then be printed.
- **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
- **Custom** to select the Oracle Analytics Server, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. For more information, see [Printing Options - Custom Format](#).

The Print Options window opens. This window displays the record information that can be printed.

3. Select the checkboxes for the information that you want to print.
4. To select all the checkboxes, click **Select All**. To clear all, clear **Select All**. If you deselect all checkboxes, only the header and footer will print.
5. Select **OK**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.
If you chose PDF, you can save a copy or print it. To print from HTML format, select **Print** in the upper-right corner.

Print Options for Configurable Manager Form

The following summarizes print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name and include the file title, issue date, revision number, and file size. Note For Oracle Analytics Server template the sorting is done in the template; as a result, the alphabetical list of file names may not always apply.
Record Attachments followed by Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.
Record Attachments followed by Comments followed by Attachments	File attachments attached to the comment are listed and contain the file title, issue date, revision number, and file size.

To print a Configurable Managers form with a custom print layout:

1. Open the form that you want to print. Be sure it is in a view mode.
2. From the File menu, choose **Print Preview**, and then choose **Custom** to select the Oracle Analytics Server, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).
3. Select a layout, and select **Ok**. The File Download window opens.

Note

- In case of the Oracle Analytics Server templates, you can select an output format and based on that selected output format the output file is generated. The output file appears in a new window.
- In case of the PDF format, the output is a .pdf file and is displayed in a new window and save.
- In case of the RTF format, the output is a .rtf file and you can open the .rtf file with Microsoft Word and save.
- In case of the Excel format, the output is an .xls file and you can open the .xls file with Microsoft Excel and save.

Custom Format Print Options for Configurable Manager

The Custom Format Print Window for non-Workflow Configurable Manager forms has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates existing for the non-Workflow Configurable Manager forms, including the custom print templates created in the **Custom Templates** node and the custom print templates created in the configuration of the non-Workflow Configurable Manager forms. For example, the list may include Oracle Analytics Server custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates for the same non-Workflow Configurable Manager forms, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select an Oracle Analytics Server custom print, you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, the "Select a template and format to print" is disabled.

Default template and format (non-Workflow)

- If an Oracle Analytics Server print template is selected, the default values in the drop-down lists are set based on the default in the custom print template.
- When an Oracle Analytics Server print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Custom Format Print Window for Workflow Configurable Manager forms

If there is only one custom print template and it is an Oracle Analytics Server template, the print template is selected in the “Select a custom print template” section, and the template and format are populated based on the default value selected at the time of designing the print template.

The Custom Format Print window has three sections for Workflow Configurable Manager forms.

- Select a custom print template
- Select a template and format to print
- Select options for Workflow Progress

By default, when the Custom Format Print window is launched, all three sections are enabled and the first template is selected. The options seen in the subsequent sections are based on the selection made in the “Select a custom print template” section.

You can select options for workflow progress in the “Select options for Workflow Progress” section of the Custom Format Print window for PDF and Word templates, which are created at the time of configuring the Workflow Configurable Manager forms.

If the selected custom print template is of an Oracle Analytics Server type, the “Select options for Workflow Progress” section is disabled. This is because the custom print template designers can always use the system provided Workflow views to include workflow-related information in the template.

Default template and format (Workflow)

- When an Oracle Analytics Server print template is selected in the “Select a custom print template” section, the “Select a template and format to print” section is populated based on the default value selected at the time of designing the print template.
- If there is only one custom print template and it is an Oracle Analytics Server template, the print template is selected in the “Select a custom print template” section, and the template and format is populated based on the default value selected at the time of designing the print template.

Cost Manager

The **Cost Manager** module or grouping node lets you work with the following features, which are presented as sub-modules or functional nodes:

- **Cash Flow**
- **Cost Sheet**
- **Schedule of Values (SOV)**
- **Funding Sheet**
- **Commitment Funding Sheet**

The following topics provide details for each feature and explain other features that are related to the **Cost Manager**.

Cash Flow

The term "cash flow" refers to:

- The movement of money in or out of a project (or business) during a specific time period.
- The movement of money in or out of a company in regard to a specific existing project, or shell, during a specific time period.
- The distribution of cost over time.

In the context of *capital projects*, cash flow is the estimating of future spends to be incurred on a project, based on current Actuals (or "spends").

The term cash flow is synonymous with cash flow forecasting, Actuals (or "spends") forecasting, and time-phasing of budget, which all refer to the availability of proper funding in each future period (month, quarter, or year).

Cash flow management includes the following steps:

1. Establishing a baseline spending plan: **Baseline**
2. Tracking actual costs: **Actuals**
3. Calculating future expenditures based on project schedules: **Forecast**

 Note

Cash flow forecasting is used to ensure that cash is available when payments are due.

The **Cash Flow** module lets you create the following curves and compare them on one cash flow worksheet:

- **Baseline**
- **Forecast**
- **Actual (or Spends)**
- **Portfolio Budget**
- **Derived**
- **Custom curves**

You can create data source, distribution profiles, and cash flow curve templates to simplify the creation of cash flow in multiple projects/shells.

If you do not select a distribution profile, the system uses the default distribution profile, when you refresh the curve. If you remove the default distribution profile during a CSV curve setup for import, the system uses the default distribution profile that was selected in the curve properties.

Administrators can set up Base Commit business processes to automatically create cash flow curves for the commitment record at a particular workflow step, or for non-workflow business processes, when the record is complete.

The following defines the *three most common, and important*, standard cash flow types:

- **Baseline**
- **Actuals (or Spends)**
- **Forecast**

Baseline

The **Baseline** is defined as:

- The time-phased distribution of the project budget over the project duration.
- The project budget distributed over the duration of the project, indicating how the budget might be spent.

A project can have multiple **Baselines** (original, revised, and so on).

Actuals (Spends)

The **Actuals** (Spends) is defined as:

- The spends that have actually been incurred (approved invoices, or in some cases, accruals).

Note

Spends is defined as periodic outlay of money, tracked per CBS.

- The project spending which includes actual invoices received for each period.

The **Actuals** (Spends) can be compared to baseline budget to maintain budgetary control.

Forecast

The **Forecast** is defined as:

- The time-phased distribution of the project forecast, from the latest **Actuals** (Spends).
- The expected spends for the future.

The start point of a **Forecast** curve is the end of the latest **Actuals** (Spends), and the end point is the total forecast.

You can use cash flow forecasting to ensure that cash is available when payments are due.

Forecast is updated as new actuals are incurred.

You can create cash flow at multiple levels in a project to:

- Track cash flow for the entire project/shell: **Project/Shell**
- Track the costs associated with summary CBS code: **Summary CBS**

Note

If you select this option, the system sets the **Summary CBS Level** to **1** by default. You can select another level, based on what is available in the Cost Sheet.

- Track cash flow at the CBS code level, across all or specific CBS code: **CBS**
- Track cash flow data for an entire commit record, including Base Commit, Change Commit, and related invoice: **Commitment**
Base Commit and Change Commit are Commitments BPs which are sub-types of Cost-type BP.

Cash Flow Curves

Cash flow curves are graphical presentations of the expenditures or spends. Cash flow curves enable you to:

- Pull data from cost sheets, business process records, or schedule sheets
- Record cash flow history by way of using snapshots
- Generate cash flow curve reports

The cash flow management steps (**Baseline**, **Actuals** or Spends, and **Forecast**) can be displayed as *Cash flow curves* in the system.

The following lists the cash flow curves types:

1. **Detail Curves:** Cost per period.
2. **Rollup Curves:** Each period includes sum of all previous periods.
3. **Summary Curves:** Each project/shell cash flow has a system defined project/shell summary curve.

Cash Flow Curves and Data Sources, Types, Distribution Profiles, Detail curve templates, and Roll up curve templates Options

A cash flow curve requires a data source which your administrator can create in the **Standards & Libraries** node.

Data Sources

Used to identify cash flow curves and Roll up data to the company worksheets. Multiple data sources can be defined per curve type, depending upon business needs. Example: "Original baseline and Current baseline" data sources can be defined for type "Baseline". For roll ups, curves are summarized across data sources.

Curve Types

Used with pre-defined categories of cash flow curves for:

- **Baseline**
- **Forecast**
- **Actual (or Spends)**
- **Portfolio Budget**
- **Derived**
- **Custom**

Each curve type has its own logic to address different business requirements.

Distribution Profiles

Used to distribute data automatically in the cash flow worksheet.

Detail curve templates

Cash flow curves can be created either manually or from a template.

Cash flow templates are created in Company Workspace from project templates and are used to create cash flow worksheets.

Roll up curve templates

Used to create curves that roll up cash flow data from projects/shells.

Cash Flow Curves Types

The following explains each of the cash flow curves types in detail.

Detail Curves

The Detail Curves are referred to a family of curves that can be defined at the project/shell level, or at the company level.

Each curve, within the family, is based on a data source (one curve per unique data source).

A cash flow curve of type *Detail Curves* is a curve that is used to monitor the movement of cash at different detail levels in a project/shell.

The cash flow (Detail Curves) levels in a project/shell are:

- **Project/Shell**
- **Commitment**
- **CBS**
- **Summary CBS**

Note

If you select **Summary CBS**, the system sets the **Summary CBS Level** to **1** by default. You can select another level, based on what is available in the Cost Sheet.

As mentioned earlier, you can specify the following cash flow types for each detail level in a project.

Note

The first three cash flow types in the list below are the *three most common, and important*, standard cash flow types.

Baseline

Depicts the project budget that is spread over the duration of the project. Users can define multiple baselines for a project.

Actuals (Spends)

Depicts the expenditures (spends) that have actually incurred.

Forecast

Depicts the projection of the future costs, based on current expenditures (Actuals or Spends).

Portfolio Budget

Depicts the Baseline curve, or Forecast curve, used for portfolio optimization scenarios in the Portfolio Manager.

Derived

Depicts the Baseline curve, or Forecast curve, used for portfolio optimization scenarios in the Portfolio Manager.

The **Derived** curve is used to convert the sources currencies to a currency used by the **Portfolio Budget** curve.

Custom

Depicts cost data other than **Baseline**, **Actuals**, and so on.

The **Custom** curves can include any other cost data that you want to view graphically.

Roll up Cashflow Curve (Rollup Curves)

A **Roll up Cashflow** curve includes a group of curves with **Active** status summarized by data source across all projects/shells in a company.

A **Roll up Cashflow** curve facilitates the aggregation of cash flow data source (from projects/shells and **CBS**) to the company cash flow worksheets.

Note

A **Roll up Cashflow** curve can only be created at company levels.

You can compare curves side-by-side, in the cash flow worksheet, to view cash flow distribution over time.

Summary Curves or Summary Cash Flow Curves

A summary cash flow curve is designed to present a consolidated view of cash flows, and each project/shell cash flow has a system-defined project/shell summary curve. A summary cash flow curve:

- Uses the detail cash flow curves to compare the movement of curves against the previous snapshots, and in the process show differences among curves with respect to time and schedule.
- Displays Variance and Forecast analyses, similar to the detail cash flow curves.

Cash Flow Worksheets

You can use cash flow worksheets to define and manage:

- Project/Shell level cash flow detail curves (listed under **Detail Curves** in project/shell **Cash Flow** log) and
- Company level Roll up Cashflow curves (listed in the company **Cash Flow** log).

The following descriptions applies to both the project/shell and Company levels cash flow worksheets.

Note

The cash flow worksheet (Standard View) shows a blank page on the Safari browser.

The cash flow worksheet is generated automatically after you define the properties for a new cash flow curve.

The system collects data from various managers and displays it in the cash flow curves. As a result, the curve options (for example, data sources and distribution selections) determine the appearance of a curve in a Flow worksheet.

The cash flow worksheet displays a graph and each curve listed has its own data set. You can select the curve name to open the window for the curve to view the contents. Depending on the curve set up, you can manage the curve data in that window.

Each part of the cash flow worksheet can be individually maximized. Additional options let you filter the information on the cash flow worksheet to display selected curves and to print the worksheet or both.

Transaction Currency in Cash Flow Curves

Introduction to Transaction Currency

When your Company Administrator signs into the system the first time, that person specifies the Base Currency, which becomes the default project currency for each project/shell.

When you create a project/shell, you can change the default project currency to any currency listed in the company-level exchange rate table.

Note

After creating your project/shell, you can add additional currencies to your project/shell as needed.

Depending on the Commitment BP design, during record creation you can select a transaction currency from the list of available currencies in your project/shell. The system stores costs in the project currency and uses the active company level exchange rate table for currency conversion.

Transaction Currency in Cash Flow Curves

In the **Project/Shell**, **Summary CBS**, and **CBS** cash flow curves, the system displays cash flow costs in the project currency.

By default, the system displays Commitment curve cost data in the record transaction currency, which is stored in project currency, using the active currency exchange rate table.

As a result:

- If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies, but you can only edit data in the transaction currency.
The summary curve displays 0 (zero), if:
 1. The transaction currency is different from the project currency, and

2. No exchange rate has been defined.
- If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data.
- If the transaction currency is different from the project currency, the system conducts the exchange rate conversion before rendering the **Summary Curves** cash flows.
- If the base currency is the only currency used in the company, the system does not conduct the exchange rate conversion, and the **Summary Curves** cash flows show the **Summary Curves** cash flows in project currency which is the same as the base currency.

Switching Between Transaction and Project Currency in Cash Flow Curves

To switch between transaction currency and project currency in a cash flow worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log and double-click the curve to open the cash flow worksheet window. By default, the worksheet opens in the transaction currency if different from project currency.
4. Use the drop-down currency menu located at the top-center of the worksheet to change currency views. If the transaction currency and the project currency are the same, you will not see the drop-down field. The numbers and curve refresh to display the new currency values.
5. In the cash flow window curves list, located on the bottom portion of the window, select a curve and open the curve details window.
If you selected the project currency view before opening the curve details window, and the curve is in transaction currency, the data will be read only.
6. In the details window use the currency menu to switch to the transaction currency. Depending upon the curve set up, you can manually enter data or change the automatically distribution profile.
7. When finished, select **Save**. The cash flow window will refresh with changes.

Project or Shell Level Cash Flow

Project/shell level cash flow curves are curves that are defined at the project/shell level.

Note

If you are working in a project/shell, the **Cash Flow** log displays cash flow **Detail Curves**. If you are working in a company (**User** mode), the log displays the company level Roll up Cashflow curves.

Project or Shell Level Cash Flow Log

The **Cash Flow** log is the starting place for cash flow operations.

To access the Cash Flow log:

1. Go to the shell tab, and switch to **User** mode.

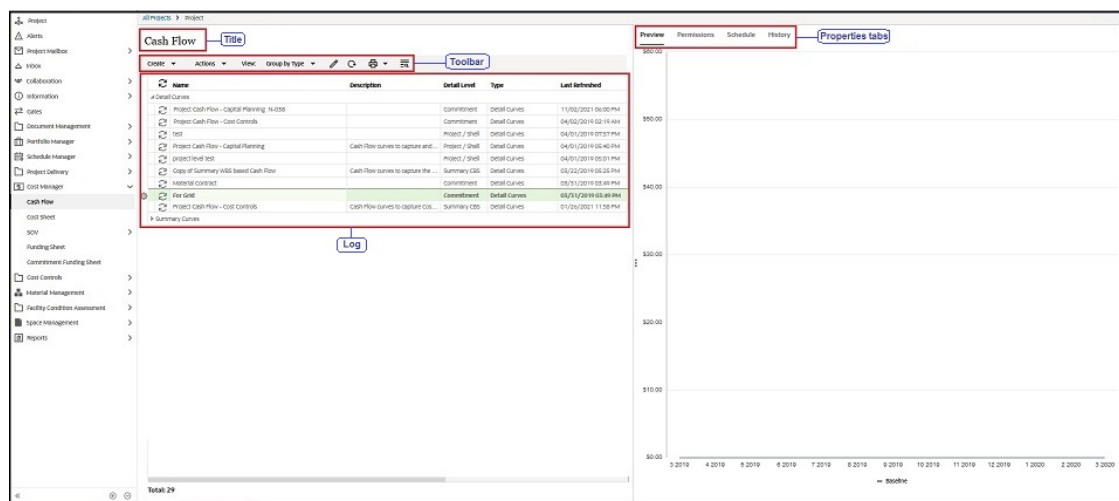
- In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.

Note

If you are working in a project/shell, the **Cash Flow** log displays cash flow **Detail Curves**. If you are working in a Company (**User** mode), the log displays the company-level Roll up Cashflow curves.

The project/shell **Cash Flow** log is divided into the following sections, as shown in the following typical screen capture:

- Title
- Toolbar
- Log
- Properties tabs. The Properties tabs include Preview, Permissions, Schedule, and History.



When you select a record (curve) on the **Cash Flow** log:

- The log view splits in half to display the properties of the selected curve, on the right.
- The *gear menu* (⚙️) becomes active.

The following provides more details about the properties of the selected curve, and the *gear menu* options.

Properties of the selected curve

When you select a record (curve) on the **Cash Flow** log, the log view splits in half, and the right pane displays the following tabs which collectively *show the properties of the selected curve*, if available:

Preview

A preview of the Actuals, Baseline, or Forecast cash flow curve.

Permissions

Groups, users, and permissions that have been assigned to the cash flow are displayed on this tab. You can grant cash flow curves viewing and usage permissions to other users, within this tab.

Schedule

Information about the refresh condition, scheduled runs, schedule frequency, and range of recurrence.

History

A history log of all data updates or refresh requests (manual and scheduled). The history log contains the requestor's name, the start and end dates and times, and the status for each detail curve.

Gear menu () of a selected curve

When you select a record (curve) on the **Cash Flow** log, the *gear menu* becomes active.

For *Detail Curves*, the *gear menu* lets you conduct the following on the selected curve:

Open

To open a curve.

Copy

To copy a curve.

When you select **Copy**, the **New Cash Flow Worksheet** window opens with the options and values within this window pre-populated by way of information in the **Properties** of the source curve. The **Name** field in this window will be prefixed with "Copy of." You can make changes as needed and select **Save & Close** to complete creation of the cash flow curve and add it to the log.

Delete

To delete existing cash flow curves. When you select one or more curves (cash flow detail curves or summary cash flow curves) and select **Delete**, if you select, **Yes** in the resulting window, the selected cash flow detail curves will be deleted.

Refresh Now

Refresh Data has three states: Refresh Now, In Progress, and Refresh Complete.

Rollup Status

A single menu option with two sub-options:

- **Active**
- **Inactive**

To manage cash flow curves roll up status. It controls whether the cash flow data from the current project/shell is rolled up to the company cash flow curves.

This option only applies to the Detail Curves, and it will be blank for the Summary Curves.

Permissions

To set, or modify, user permissions applicable to the curve.

Properties

To open the **Cash Flow Properties** window.

Note

When you highlight more than one detail curve (multiple detail curves) on the log, the *gear menu* lets you access **View Summary**. This option lets you open the **Summary** window and see a summary curve for all selected curves. You can use the **Snapshot** menu (upper-right corner of the window) to **Create Snapshot** or **Save Summary Curve**.

For *Summary Curves*, the *gear menu* () lets you conduct the following on the selected curve:

Open

To open a summary curve.

Copy

To copy a summary curve.

Project or Shell Level Cash Flow Log Toolbar Options

The **Cash Flow** log has the following toolbar options:

Create

This drop-down field has the following options:

- **Manual:** Lets you create a cash flow worksheet manually.
- **From Template:** Lets you open the **Cashflow Templates** window, select a cash flow template, and create a cash flow worksheet from the selected template.
- **Summary Curve:** Lets you create a summary curve.

Actions

This drop-down field has the following options:

- **Refresh Now:** Select one or several curves on the log, and select **Refresh Now** to update the curve details. The refresh process may take some time. Refresh data has three states: Refresh Now, In Progress, and Refresh Complete including date and time. A check mark will be visible for curves that have been refreshed.
- **Rollup Status:** Select one or more curves on the log, and select **Rollup Status** to mark them as **Active** or **Inactive**, for roll up purposes.
- **Permissions:** Select one or several curves on the log, and select **Permissions** to open the **Permissions** window and add or modify permissions.
- **Delete:** Select one or several curves on the log, and select **Delete** to create a summary curve.
- **Manage Distribution Profiles:** This action is not related to cash flow list. The Manage Distribution Profiles option lets you examine various distributions of cost, or any value, over a period of time, in a project/shell. The **Manage Distribution Profiles** option lets you open the **Edit Distribution Profiles** window and create, copy, or delete distribution profiles, for your project/shell.

View

This drop-down field has the following options:

- **All Curves:** This option lets you display all the available curves on the log.
- **Group by Type:** This option lets you display all the available curves under the following groups:
 - **Detail Curves**
 - **Summary Curves**
- **<custom view>:** Any custom view.
- **Create New View:** This option lets you open the **New View** window and create a view for the **Cash Flow** log.
- **Manage Views:** To open the **Manage Views** window and move the order of the current views, make a particular view visible or invisible, or delete a view.

Edit View

This option lets you open the **Edit View** window and update the selected log view by determining available columns, applying filters, and grouping and sorting on the following tabs:

- **Columns**
- **Filters**
- **Group By**
- **Sort By**

When finished, select **Apply**, and then select **Save As** to save your view.

Refresh

This option lets you update the data in all the curves that appear on the **Cash Flow** log. The refresh has three states: Refresh Now, In Progress, and Refresh Complete which includes the date and time. For more information, see [Refreshing Data in Cash Flow Log](#).

Print

This option lets you print the list of curves displayed (**Print**), export the list of curves displayed to an external file (**Export to CSV** or **Export to Excel**).

① Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Find on Page

This option lets you open a row on top of the rows within the log and enter values in each column to start a search for a specific curve in the log.

Managing Distribution Profiles

Distribution Profiles

When working with templates (versus detail curves) in a project/shell, the distribution profiles can be:

- Created in Admin mode (in Standards & Libraries).
- Used when selecting auto distribution for curves.

At runtime, you can create additional distribution profiles within the project's cash flow module. When working with curves, you can apply the profiles created in Admin mode, or in the project/shell.

Note

If you are creating a project/shell from a project/shell template, and you are copying the **Cash Flow** module, the project/shell template properties and permissions will be copied into the new project/shell.

Creating and Managing Distribution Profiles

Administrators can create a library of distribution profiles in the Company Workspace (**Admin** mode), **Standards & Libraries**. In addition to these profiles, you may also want to create additional distribution profiles in a project/shell. At runtime, when you select a distribution profile, you will see the list of profiles created in **Admin** mode, as well as the ones created in **User** mode.

To add a distribution profile in a project/shell:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the toolbar, select **Actions** and select **Manage Distribution Profiles**. The **Edit Distribution Profiles** window opens.
4. Edit and manage distribution profiles in this window in the same way as the default distribution profiles created in **Admin** mode.
For more information, see [Create a Cash Flow Distribution Profile](#).

Creating a View and Managing an Existing View in the Cash Flow Log

To create a view in the Cash Flow log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the **View** menu, select **Create New View**.
4. In the **View Name** field of the **New View** window, enter a name for the new view.
5. Set the other view parameters in the following tabs:
Columns

Filters**Group By****Sort By**

6. To save your changes, select **Save**.

To manage a view in the Cash Flow log View:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the **View** drop-down menu, select **Manage Views** to open the **Manage Views** window.

Note

The **Cash Flow** log views will be shared across templates and shells.

Provided that you have pertinent permissions, in the **Manage Views** window you can:

- Move the order of the views in the **View** menu on the toolbar.
- Make a particular view visible to the user.
- Delete a particular view.

The current view is marked with a green check mark in the **Manage Views** window. To save your changes, select **Save**. To discard your changes, or to close the window, select **Cancel**.

Refreshing Data in Cash Flow Log

What does refresh do?

When you select **Refresh**, the system checks:

- To see if there are any new spends records that are not part of the curve. Depending on Period Close settings, the spends record is added to the correct period, and therefore, changes in values will appear for Spends curves and for Forecast curves that consider spends records.
- To see if a distribution profile definition has changed, either in Admin mode, or in the project/shell. Any changes will be applied to the curve.
- To see if dates are based on master schedule sheet, checks to see if values have changed in the schedule sheet.
- For a curve in the auto mode, refresh distributes unassigned values automatically.
- For errors, such as not selecting a valid business process record or cost column, or missing data such as a blank schedule sheet date column. The error alert will display in red font on the worksheet (below the curve section). Select the error to view the reason.

Refresh also checks for changes to CBS structure.

What happens to unassigned fields, when you refresh?

If there is a value in the Unassigned field, hover over or select the field. The reason for the value is displayed. For example:

- Excess or deficit because of Spends (invoice) records
- Incoming Change Orders
- For Forecast curves with option to start at the end of Actuals (Spends amount), the amount is put in the Unassigned field if the To Date of the forecast curve is less than effective date of a Spends value.

Read the following topics for information about scheduling auto refresh.

You can update (refresh) cash flow curves data:

- Manually
- Automatically

How do you refresh cash flow curves manually?

The following shows the various ways that you can manually update (refresh) data that appears on the cash flow curves.

To refresh the contents of the **Cash Flow** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the toolbar, select the **Refresh** icon to refresh the contents of the log.

To refresh the contents of the cash flow curves in the **Cash Flow** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select one or more cash flow curves from the log.
4. Select the *gear menu* () and select **Refresh Now**.

To refresh the contents of the cash flow worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log and double-click the curve to open the cash flow worksheet window.
4. From the toolbar, select the **Refresh** icon to refresh the contents of the worksheet window.

How do you refresh cash flow curves automatically?

The following shows how you can set up a schedule to automatically update (refresh) data that appears on the cash flow curves.

To set up a schedule to automatically update (refresh) data that appears on the cash flow curves, you must set the cash flow curve auto-refresh schedule. To do so:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select one or more cash flow curves from the log.

4. On the properties pane (right side), select the **Schedule** tab.
5. Proceed to complete the fields to schedule the refresh runs, frequency, and range of recurrence.
Selecting the **Enable Refresh** option will automatically update (refresh) data that appears on the selected cash flow curves.

Working with Project or Shell Level Snapshots and Audit Log

A snapshot displays the graph, curves, and curve data on the worksheet. Snapshots are not editable. You can take a snapshot and view it in project, transaction currencies, and reports. You can manually save a snapshot of a cash flow curve at any time.

When you open a detail curve (a cash flow worksheet) from project/shell **Cash Flow** log, you can select **Snapshot**  from the toolbar and access the following options:

Option	Description
Create Snapshot	Use this option to create, or to take a snapshot of a cash flow curve, at any time.
Snapshot Log	Use this option to view, open, or delete the snapshots that have been created or taken of a cash flow curve. The Title, Creator, and Created on data is also provided on this window.
Audit Log	Use this option to access a record of the details such as Date, Event, Action, User Name , and so on, about the cash flow curve. You can use the Audit Log toolbar options to refresh the list, print the list, and find items in the list of log items.
Properties	Use this option to open the Cash Flow Properties window. The function of the Properties option in the Snapshot menu  is identical to the function of the Properties option of the <i>gear menu</i> () next to a cash flow curve in the Cash Flow log. In the Cash Flow Properties window, select More Options to open the More Options window and set the following parameters for your snapshot in the Period Close Settings tab: • Enable auto snapshot • Cut off Spends • Apply spends to The More Options window also lets you add the cash flow curve to selected summary curves, in the Summary tab: • Available: This block shows a list of available summaries. • Selected: This block will contain your selected summary. Finally, in the More Options window, you can set the number of decimals or opt to use currency decimal precision, in the Decimal Options tab.

To take a snapshot at any time:

1. Open your cash flow curve.

2. From the toolbar, select **Snapshot** , and select **Create Snapshot**. The **Create Snapshot** window opens. The window also displays the time stamp of the snapshot for reference.

3. Enter a title for your snapshot, in the **Title** field, and select **OK**.

To schedule an automatic snapshot:

1. Open your cash flow worksheet or curve.
2. From the toolbar, select **Snapshot** , and select **Properties**.
3. In the **Cash Flow Properties** window, select **More Options** to open the **More Options** window and set the following parameters for your snapshot in the **Period Close Settings** tab:
 - **Enable auto snapshot**
 - **Cut off Spends**
 - **Apply spends to**

Note

- After taking an auto-snapshot, the system immediately refreshes the cash flow curve. Spends will resume after the auto-snapshot.
- Because your organization might have multiple cash flow jobs and automatic snapshots scheduled to run for a multitude of projects, your administrator can use the Cash Flow Jobs functional node to manage the jobs and auto-snapshots and their impact on system performance. For more information, see the *Unifier General Administration Guide*.

To view a created snapshot:

1. Open the cash flow curve.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. In the **Snapshot Log**, choose a snapshot to view and double-click the snapshot to open the cash flow curve or worksheet snapshot.
4. Maximize the window to be able to identify the following elements:
 - Top block: Containing cost-related at-glance numeric data as well as detailed information, when you select **Show More**.
 - Bottom block: Containing curves corresponding to the cost periods and variances.
 - Screen split  : Select the icon and drag to expand the window. You can use the **Expand** and **Dock** icons (upper-right corner) to adjust this screen. This screen lets you access detailed information for actuals, baseline, forecast, and most other interactive elements, but the snapshot data is not editable.

To search for a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. In the **Snapshot Log**, select **Find on Page** to open the find box for each column (**Title**, **Creator**, and **Created On**).

4. Proceed to enter a value in one or all the boxes to search and find your desired snapshot.
5. To restore the entire list, select **Find on Page**.

To delete a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. In the **Snapshot Log**, select a snapshot, select **Delete**, and follow the prompts.

To print a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. From the toolbar, select **Print** , and select one of the following options:
 - **Print:** To open a window that lets you select a method to print the selected curves.
 - **Export To CSV:** To open a dialog box that lets you save a Microsoft Excel Comma Separated Values (CSV) File version of the selected curves, so you can export the file to a desired destination.
 - **Export To Excel:** To open a dialog box that lets you save a Microsoft Excel Worksheet version of the selected curves, so you can export the file to a desired destination.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Project or Shell Level Cash Flow Log Columns

The **Cash Flow** log has the following columns options:

- **Refresh Data** (): To update each curve data and view the refresh status. The refresh actions apply to *Detail Curves* and not to *Summary Curves*.
- **Name:** Name of the curve.
- **Description:** Description for the curve.
- **Detail Level:** This option applies to *Detail Curves* only and will be blank for *Summary Curves*.
- **Type:** Type of the curve.
- **Last Refreshed:** Date when the curve received the most up-to-date information.

- **Summary Status:** *Summary Curve* status. As the label suggests, the **Summary Status** column applies to *Summary Curves* and not to *Detail Curves*. This column should be blank for *Detail Curves*.
- **Time Scale:** The time taken by the process. This option applies to *Detail Curves* only and will be blank for *Summary Curves*.
- **Rollup Status:** This option controls whether the cash flow data from the current project/shell is rolled up to the Company cash flow curves. This option applies to *Detail Curves* only and will be blank for *Summary Curves*. You can change the roll up status of one or more curves. To activate or deactivate the roll up status, select **Active** or **Inactive**.
- **Last Saved:** The date the cash flow curve properties were last updated and saved. This option applies to *Detail Curves* only and will be blank for *Summary Curves*.
- **Auto Refresh:** A detail cash flow curve can be set up to refresh automatically as per a schedule. This column shows the auto-refresh frequency, if the curve has been set up for the same, else, it shows as blank. This option applies to *Detail Curves* only and will be blank for *Summary Curves*.

Project or Shell Level Cash Flow Worksheet

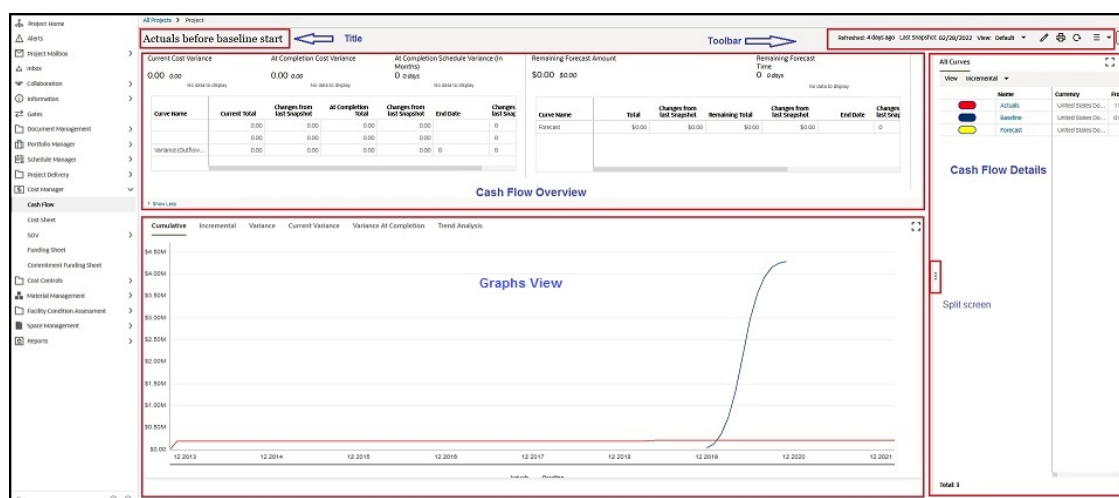
To open a project/shell cash flow worksheet for an existing curve:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow**.
3. In the Cash Flow log, double-click the applicable curve to open the cash flow worksheet window.

The project/shell cash flow worksheet is divided into the following sections, as shown in the following typical screen capture:

- Title
- Toolbar
- Cash Flow Overview
- Graphic View
- Cash Flow Details

The cash flow worksheet window is divided into the following parts, as highlighted in the following screen capture, and each part can be individually maximized.



The following explains each part in detail.

Project or Shell Level Cash Flow Worksheet Toolbar Options

The toolbar section of the project/shell cash flow worksheet displays the worksheet title and the following toolbar options:

- View:** Use this option to **Create New View** for the worksheet or to **Manage Views** that have been created.
 If your administrator defined global views in a Cash Flow template and pushed them to your project/shell, these views are also listed in the View menu of your cash flow worksheet. (One of the views might also be used to define the **Default** view in the template.) You can use these predefined views to create additional custom views and you can change the order of the views. You cannot edit or delete the predefined views.
- Edit View:** When you select **Edit View**, the **Edit View** window for the current view opens. In this window, you can select the curves that you want to view on the log (for **Curves**, **Inflow**, and **Outflow**). You can also add columns and group your columns when you select the **Group By** tab and use the **Filters** tab to filter the CBS rows based on code segments or cost attributes. The Filters tab in Views is available for the By CBS and Summary CBS type of cash flows.
- Print:** Use this option to open your browser's print options for the worksheet.
- Refresh:** This option lets you update the data in all the curves that appear on the **Cash Flow** log. The refresh has three states: Refresh Now, In Progress, and Refresh Complete, which includes the date and time. See [Refreshing Data in Cash Flow Log](#).
- Snapshot:** This menu contains the following options:
 - Create Snapshot:** To create a snapshot of the curve.
 - Snapshot Log:** To view, edit, or delete previous snapshots of the curve.
 - Audit Log:** To view change details to the curve.
 - Properties:** To view the properties of the Cash Flow.

For more information, see [Working with Project or Shell Level Snapshots and Audit Log](#).

Creating a View and Managing an Existing View in the Cash Flow Worksheet

By default, views display as graphs. However, your administrator can create views that display as a grid or as a split view that shows both a graph and a grid on the same page. Additionally, your administrator might have chosen to hide the Key Performance Indicator (KPI) section, but you can use Expand KPI



to display it.

To create a view in the cash flow worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log, and then select **Open** from the *gear menu* (



) to open the cash flow worksheet window.

4. From the **View** menu, select **Create New View**.
5. In the **Save View As** field of the **New View** window, enter a name for the new view.
6. From the **Default Layout** list, select **Grid View** or **Split View (Graph and Grid)** if you do not want to use the default Graph View.
7. To hide the KPI Panel from the view, select the **Hide KPI Panel** checkbox.
8. Set the other view parameters in the following tabs:
 - **Curves:** In the **Curves** tab, select curves from the **Available Curves** list, and select the **Move** arrow to add curves to the **Selected Curves** list, or select the **Move All** double arrow to move all available curves to the **Selected Curves** list. The last column in the **Selected Curves** list is not available for locking.
 - **Inflow:** In the **Inflow** tab, select curves from the **Available Curves** list, and select the **Move** arrow to add curves to the **Selected Curves** list, or select the **Move All** double arrow to move all available curves to the **Selected Curves** list. The last column in the **Selected Curves** list is not available for locking.
 - **Outflow:** In the **Outflow** tab, select curves from the **Available Curves** list, and select the **Move** arrow to add curves to the **Selected Curves** list, or select the **Move All** double arrow to move all available curves to the **Selected Curves** list. The last column in the **Selected Curves** list is not available for locking.
 - **Filters:** On the **Filters** tab:
 - a. Select the **Add Filter** button.
 - b. Choose a **Data Element:** This drop-down list includes all Cost Code Segments and CBS Attributes. It also includes specific fixed-column items such as Total, From Date, To Date, and Unassigned.
 - c. Choose a **Condition:** This drop-down list displays a list of conditions. This list is based on the type of data element selected.
 - d. Choose a **Value:** Depending on the type of data element, choose a value that the query condition must meet.

Note

Currency precision is not adhered to within filters. For example, if your project currency uses four digits after a decimal point, the entries in the **Value** field for a **Data Element** related to a currency or a decimal amount or an entry in the **Total** or **Unassigned** column selected on the **Filters** tab for a view display only two digits after a decimal point.

You can add multiple filters to a view, and you can use the same data element multiple times. When adding multiple filters, you can use operators to specify that the view must match all listed filters or that it can match one or more of the listed filters. To add additional filters, select **Add Filter** again, repeat the preceding steps, and select the applicable operator that should apply. You can add up to 15 filters.

- **And:** If you want to specify that the view must match all listed filters, select **And**.
- **Or:** If you want to specify that the view should match any of the listed filters, select **Or**.
- **Group By:** Use the **Group By** tab to identify which columns should be used for grouping and in what order. When you use **Group By** to define a group based on CBS attributes, the summary row displayed on the final view shows the totals and distributed costs and—based on the filtered leaf-level rows—the earliest **From Date** and most recent **To Date**.

Note

To minimize the potential performance impact when a detailed, Current Cost Variance, or At Completion Cost Variance sheet is loaded, Oracle recommends that you use Data Elements (DEs) on the Group By tab that create useful groups, such as Type or Roll up Status, and avoid using DEs such as Cost Code, Code Name, and Cost Type.

9. To save your changes, select **Save**.

To manage a view in the cash flow worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log, and then select **Open** from the *gear menu* (



) to open the cash flow worksheet window.

4. From the **View** menu, select **Manage Views** to open the Manage Views window.

Provided that you have pertinent permissions, in the **Manage Views** window you can:

- Move the order of the views in the **View** menu on the toolbar.
- Make a specific view visible or hide it.
- Delete a specific view.

Note

If your administrator defined global views in a Cash Flow template and pushed them to your project/shell, these views are also listed in the View menu of your cash flow worksheet. (One of the views might also be used to define the Default view in the template.) You can use these predefined views to create additional custom views and you can change the order of the views. You cannot edit or delete the predefined views.

The current view is marked with a green check mark in the **Manage Views** window. To save your changes, select **Save**. To discard your changes, or to close the window, select **Cancel**.

Project or Shell Level Cash Flow Worksheet Overview Section

The project/shell level cash flow worksheet overview section provides a visualization of key information, snapshot changes, and system snapshots for faster understanding of project financial conditions. This section of the cash flow worksheet displays the current, at completion, and remaining cost-related information for the project, as well any remaining forecast amount and time, for the selected curve. Select **Show More** on the lower-left corner to expand the screen and see more details.

The following provides information about assigning inflow, outflow, variances, and forecast.

Assigning Inflow and Outflow

- **Inflow** = the amount assigned to the project as the budget. For example, this may come from either a cost sheet column or a system activity sheet in the system.
- **Outflow** = the amount that has been spent and forecasted to be spent. For example, the Actuals (Spends), Invoices, Forecast (coming from Cost Sheet), are considered Outflow in the system.

Variance Analysis

You can view inflow vs. outflow analysis in the three tiles at the top of the cash flow worksheet:

- **Current Cost Variance** shows the difference between the current cost inflow and the current cost outflow. The change in current cost variance against the last snapshot displays beside the total.
- **At Completion Cost Variance** shows the difference between the at completion cost inflow and the at completion cost outflow. The change in the at completion cost variance against the last snapshot displays beside the total.
- **At Completion Schedule Variance** shows the difference between the at completion schedule inflow and the at completion schedule outflow in months. The change in the at completion schedule variance against the last snapshot displays beside the total.

A bar chart corresponding to the colors of the curves is visible below the variance amount. Hover over a bar to display a tooltip with corresponding information, and select **Click to Open** to open the curve worksheet.

Variance Analysis Table

Select **Show More** at the bottom of the tile to view a Variance Analysis Table containing the following columns:

- Curve Name

- Current total
- Changes from last Snapshot
- At Completion Total
- Changes from last Snapshot
- End Date
- Changes from last Snapshot

Forecast Analysis

Forecast curves include a separate forecast analysis section in which you can view *Spends* versus *Forecast* analysis and *Forecast* versus *Baseline* analysis. This section contains the following tiles:

- **Remaining <Forecast Curve Name> Amount** shows the difference between the at completion forecast amount and the approved spends till date. The change in the remaining forecast amount against the last snapshot is displayed beside the total.
- **Remaining <Baseline Curve Name> Amount** shows the difference between the at completion baseline amount and the approved spends till date. The change in the remaining baseline amount against the last snapshot is displayed beside the total.
- **Remaining <Forecast Curve Name> Time** shows the difference in date between the forecast curve end date and the actuals end date. The change in the remaining forecast end date against the last snapshot displays beside the total.
- **Remaining <Baseline Curve Name> Time** shows the difference in date between the baseline curve end date and the actuals end date. The change in the remaining baseline end date against the last snapshot displays beside the total.

Forecast Analysis Table

Select **Show More** at the bottom of the tile to view a Forecast Analysis Table containing the following columns:

- Curve Name
- Total
- Changes from last Snapshot
- Remaining Total
- Changes from last Snapshot
- End Date
- Changes from last Snapshot
- Remaining Time
- Changes from last Snapshot

Project or Shell Level Cash Flow Worksheet Graphs View Section

The project/shell level cash flow worksheet Graphs view section displays the graphs view of your selected curve.

Multiple curves can display on the graph. You can add as many curves as you need to the worksheet. Each curve must be associated with a data source which is created in Admin mode. The curves are color-coded; the color is determined by the data source.

In the graph, you have the option to filter out some curves and display a subset of the available curves, change the zoom level between monthly and yearly, or print the graph. You can switch between the following views:

- **Cumulative** curve
A Cumulative curve displays the net of all cash flows over a period of time.
- **Incremental** curve
An incremental curve displays the cash flow for a certain period.
- **Variance**
Inflow and Outflow data is displayed in a bar chart. Variance (Difference between inflow and outflow) is shown as an area chart.
- **Current Variance:**
A table displays the difference between the current cost inflow and the current cost outflow.
- **Variance At Completion:**
A table displays the difference between the at completion cost inflow and the at completion cost outflow.
- **Trend Analysis:**
A graph displays at completion values of all the visible baseline and forecast curves against snapshots.

Project or Shell Level Cash Flow Worksheet Details Section

The cash flow details on the right, which you can open by using the split screen  icon, or slider, lets you see cash flow details related to your project life cycle (iteration by iteration) and corresponding cumulative cost (total expenditures from all sources).

 Note

To maximize or to adjust the cash flow detail pane (**All Curves**) screen for better visibility, use **Expand**  or **Dock**  in the upper-right corner.

The cash flow details are presented through a table in the right pane, which shows the data for the curves. Each row of the table corresponds to one of the curves on the graph and displays the curve data in columns. The data in these columns show the distribution of cost, and the total of cost is the value in the **Total** field.

- If you are doing an *auto distribution* by using a distribution profile, the values in these columns are calculated based on the distribution percentages.
- If you are doing a *manual distribution*, you will enter the values into each time period (distributing the amount in the **Total** column).

The **Unassigned** will displays how much of the amount in the **Total** column is left to be distributed.

The following table describes each column in detail.

 Note

The system displays the cost data using the latest exchange rate table.

Curve Data Column Name	Description
Color	The color of the graph displays in the first column
Name	The name of curve, taken from the Data Source. You can select the curve name to view the detail window of the curve.
Currency	The currency for the curve.
From Date	The starting point of the curve. This can be entered manually or taken from a date field on the project/shell master schedule sheet, as defined in the curve properties.
To Date	The ending point of the curve, also manually entered or pulled from the schedule sheet. This can be entered manually or taken from the schedule sheet.
Total	This amount is the cost portion of the curve. It can be pulled from a specified cost sheet column or business process (BP). This total amount is then distributed over the time period (From Date to To Date) to generate the cash flow curve. This is defined in the curve properties.
Unassigned	Any amount left over from the Total amount that has not yet been distributed.
Time Period Columns	These are the incremental time periods for the duration of the cash flow time period. That is, the From Date to the To Date, entered above. For monthly distribution, these display each month and year from the From Date to the To Date. If shown Yearly, each period is one year.

The following explains the options that are available within the cash flow detail pane for *Detail Curves* and *Summary Curves*.

Detail Curve

Within a detail curve, the following toolbar options let you:

- Alter the view (from the **View menu**, select a different view)
- Create a view (from the **View menu**, select **Create New View**)
- Make existing views visible or hide existing views (from the **View menu**, select **Manage Views**)
- Edit the view (select **Edit View**)
- Print the view (select **Print**)
- Update data (select **Refresh**)
- Produce a snapshot, view the snapshot log, access the audit log, and access properties (from the **Snapshot menu**, select **Create Snapshot**, **Snapshot Log**, **Audit Log**, or **Properties**)

Note

In the cash flow detail pane, any view, the values are not editable and cannot be distributed.

Within a detail curve, the **View** option provides the following options:

- **Incremental**
- **Cumulative**

The following explains each view option in detail.

- [Detail Curve View \(Incremental\)](#)
- [Detail Curve View \(Cumulative\)](#)
- [Importing Cash Flow Data](#)
- [Bulk Edit Cash Flow](#)

Detail Curve View (Incremental)

The **Incremental** view lets you see the details for:

- **Actuals** (Spends)
- **Baseline**
- **Forecast**
- **Budget**
- **Derived**
- **Custom**

Double-click each cost-related scenario to open it and see pertinent details.

Actuals (Spends)

If you select the **Incremental** view and select **Actuals** (Spends) (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page:** To find a particular amount.

Baseline

If you select the **Incremental** view and select **Baseline** (under the **Name** column), the baseline amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Bulk Edit:** You can conduct bulk edit on one or more curves. When you select **Bulk Edit**, the **Bulk Edit** window opens, and you can select values for the following elements:

Note

The **Bulk Edit** option is unavailable if in project currency mode (in the details window). See below for details.

- **Distribution Profile (Back Loaded - Front Loaded - Linear - S curve)**
- **From Date**

- **To Date**
- **Total** (not applicable to Baseline)

Note

Elements in the window that have the "**Update**" option checked for them will be updated with the selected value. If you do not specify a value for an element and leave the element empty, the system will clear any existing value.

Select **Update** when finished.

- **Import:** Your import options are **Curve Setup** and **Curve Distribution**. The **Curve Distribution** option is not available.
- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page:** To find a particular amount.
- **CBS Hierarchy View:** (Only displayed for CBS cash flow curves; available whether schedules are entered manually or brought in through an Activity Sheet) To display a hierarchical view of cost and summary codes. Displays summarized data for total costs, unassigned costs, and date ranges in a view-only mode. The view retains any filters already applied, which ensures that only the specific cost codes that you defined are shown in the summarized view. You can select **Expand all** to view all codes and leaf-level codes, select **Collapse all** to display the main CBS codes, and select **Refresh** to update the data displayed. If you modify the date values in the main worksheet while the CBS Hierarchy View overlay is open, you must select **Refresh** to update the hierarchy view.

Note

If you update a View using the **Filters** tab, you must close the **CBS Hierarchy View** window and reopen it to see updated information.

In Commitment-based curves:

- The system shows cash flow in the transaction currency of record creation. The system stores the data in project currency. If the project currency is different from the transaction currency, both the main and detail windows contain a currency drop-down list, which you can use to show costs in the project currency; however, you can only edit data in the transaction currency mode. Currency conversion is based on the active company-level Exchange Rates table. The **Bulk Edit** option is unavailable if the Detail Curve detail window is in project currency mode.
- The Detail Curve detail window shows columns from the Business Process. For example, **Number, Name, Line No, CBS Code, Description (Short Description)** columns.

Forecast

If you select the **Incremental** view and select **Forecast** (under the **Name** column), the baseline amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Bulk Edit:** You can conduct bulk edit on one or more curves. When you select **Bulk Edit**, the **Bulk Edit** window opens, and you can select values for the following elements:
 - **Distribution Profile** (not applicable to Forecast)

- **From Date**
- **To Date**
- **Total**

Note

Elements in the window that have the "**Update**" option checked for them will be updated with the selected value. If you do not specify a value for an element and leave the element empty, the system will clear any existing value.

Select **Update** when finished.

- **Import:** Your import options are Curve Setup and Curve Distribution. The Curve Distribution option is not available.
- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page:** To find a particular amount.
- **CBS Hierarchy View:** (Only displayed for CBS cash flow curves) To display a hierarchical view of cost and summary codes. Displays summarized data for total costs, unassigned costs, and date ranges in a view-only mode. The view retains any filters already applied, which ensures that only the specific cost codes that you defined are shown in the summarized view. You can select **Expand all** to view all codes and leaf-level codes, select **Collapse all** to display the main CBS codes, and select **Refresh** to update the data displayed.

Detail Curve View (Cumulative)

The **Cumulative** view lets you see the details for:

- **Actuals** (Spends)
- **Baseline**
- **Forecast**
- **Derived**
- **Custom**

Double-click each cost-related scenario to open it and see pertinent details.

Actuals (Spends)

If you select the **Cumulative** view and select **Actuals** (Spends) (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page:** To find a particular amount.

Baseline

If you select the **Cumulative** view and select **Baseline** (under the **Name** column), the baseline amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Bulk Edit:** You can conduct bulk edit on one or more curves. When you select **Bulk Edit**, the **Bulk Edit** window opens, and you can select values for the following elements:
 - **Distribution Profile (Back Loaded - Front Loaded - Linear - S curve)**
 - **From Date**
 - **To Date**
 - **Total** (not applicable to Baseline)

Note

Elements in the window that have the "**Update**" option checked for them will be updated with the selected value. If you do not specify a value for an element and leave the element empty, the system will clear any existing value.

Select **Update** when finished.

- **Import:** Your import options are **Curve Setup** and **Curve Distribution**. The **Curve Distribution** option is not available.
- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page :** To find a particular amount.
- **CBS Hierarchy View:** (Only displayed for CBS cash flow curves; available whether schedules are entered manually or brought in through an Activity Sheet) To display a hierarchical view of cost and summary codes. Displays summarized data for total costs, unassigned costs, and date ranges in a view-only mode. The view retains any filters already applied, which ensures that only the specific cost codes that you defined are shown in the summarized view. You can select **Expand all** to view all codes and leaf-level codes, select **Collapse all** to display the main CBS codes, and select **Refresh** to update the data displayed. If you modify the date values in the main worksheet while the CBS Hierarchy View overlay is open, you must select **Refresh** to update the hierarchy view.

Note

If you update a View using the **Filters** tab, you must close the **CBS Hierarchy View** window and reopen it to see updated information.

Forecast

If you select the **Cumulative** view and select **Forecast** (under the **Name** column), the baseline amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Bulk Edit:** You can conduct bulk edit on one or more curves. When you select **Bulk Edit**, the **Bulk Edit** window opens, and you can select values for the following elements:
 - **Distribution Profile** (not applicable to Forecast)
 - **From Date**

- **To Date**
- **Total**

Note

Elements in the window that have the "**Update**" option checked for them will be updated with the selected value. If you do not specify a value for an element and leave the element empty, the system will clear any existing value.

Select **Update** when finished.

- **Import:** Your import options are Curve Setup and Curve Distribution. The Curve Distribution option is not available.
- **Export:** To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh:** To update the data, or amounts, on the page.
- **Find on Page:** To find a particular amount.
- **CBS Hierarchy View:** (Only displayed for CBS cash flow curves) To display a hierarchical view of cost and summary codes. Displays summarized data for total costs, unassigned costs, and date ranges in a view-only mode. The view retains any filters already applied, which ensures that only the specific cost codes that you defined are shown in the summarized view. You can select **Expand all** to view all codes and leaf-level codes, select **Collapse all** to display the main CBS codes, and select **Refresh** to update the data displayed.

Importing Cash Flow Data

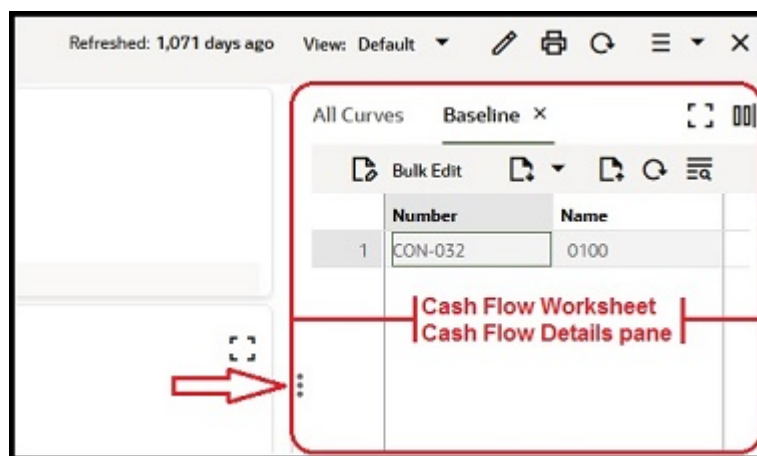
You can import cash flow data via CSV file. This includes curve setup data (From and To dates, Profile, and Total columns) and curve distribution data (distribution values of the Total amount entered in the date period columns). It is important to observe the order of curve operations: import the setup values first, and then import the distribution values.

- Manual entry generally allows data import but depends upon the curve set up.
- Auto-distribution precludes data import.
- Fields that display data from other sources (schedule sheet, cost column, business process record) cannot be edited via CSV import.

You can change curve distribution settings; however, the system will replace your data with data collected by the new distribution method. For example, if you change a manual entry field to auto, all manually entered data will be lost and replaced with the autogenerated data.

To import curve setup data into the Cash Flow Worksheet by CSV import:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log and double-click the curve to open the Cash Flow worksheet window.
4. Open the right pane by way of moving the split screen to display the Cash Flow Worksheet Cash Flow Details pane, as shown below, and select **Baseline** or **Forecast**.



If you are importing both setup and distribution data, import the setup data first to establish the distribution time period.

5. To export the CSV template, from the toolbar, select the **Export** icon (down arrow). The CSV opens in Microsoft Excel. You can **Save** the CSV file to your desktop first or **Open** it directly.

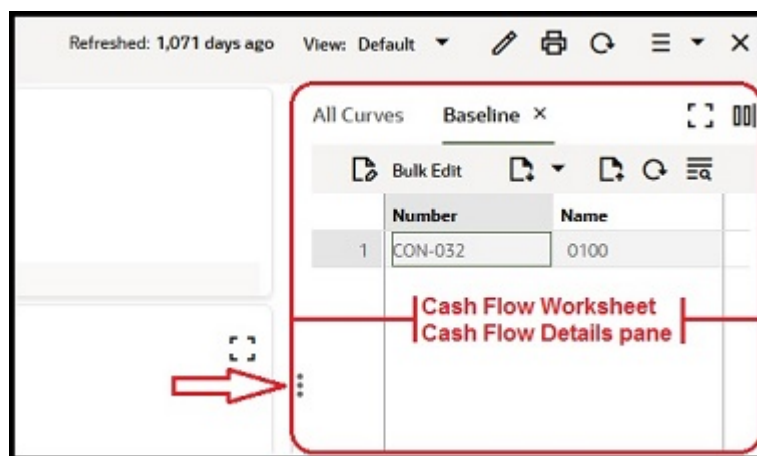
Note

Cash flow data exports the currency and the values to the CSV template.

6. Add the Curve Distribution data to the CSV file.
 - **From Date, To Date:** use the date format.
 - **Profile:** If using auto-profile, enter the name of the default profile you want to use. This is from the Distribution Profiles list maintained in Admin mode.
 - **Total:** Enter a value to use as the cost total.
 - **Save** the CSV file.
7. Import the CSV file.
 - In the Details sheet, select the **Import** icon (up arrow), and then select **Curve Setup** from the drop-down menu. The File Upload window opens.
 - Locate the CSV file and select **Open**. The data will populate edited fields on the Details sheet.

To import curve distribution data into the Cash Flow Worksheet by CSV import:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log and double-click the curve to open the Cash Flow worksheet window.
4. Open the right pane by way of moving the split screen to display the Cash Flow Worksheet Cash Flow Details pane, as shown below, and select **Baseline** or **Forecast**.



5. Select the **Export** icon (down arrow) to export the CSV template. You can Save the CSV file to your desktop first or **Open** it directly.
6. Add the Curve Distribution data to the CSV file.
 - Enter values in the time period distribution fields. Do not exceed the amount for Unassigned.
 - The Currency field must have the currency listed.
 - **Save** the CSV file.
7. Import the CSV file.
 - In the Details sheet, select the **Import** icon (up arrow), and then select **Curve Distribution** from the drop-down menu. The File Upload window opens.
 - Locate the CSV file and select **OK**. The data will populate edited fields on the Details sheet.
8. **Save** the Details window.

Note

You can import data into cash flow by commitment curves in either transaction or project currencies. If you try to import data in an incorrect currency, you will be notified. For example, if the transaction currency is in Yen and the project currency is in USD, and you try to import in Euro, you will get an error message in the CSV file. You will need to correct the errors in the CSV before re-importing.

Bulk Edit Cash Flow

Bulk Edit is available on the Cash Flow Worksheet Cash Flow Details pane. Bulk Edit is useful when there are multiple items to be edited that are associated with the curve data.

For example, if you are doing cash flow by CBS, the data in the Details window displays the CBS codes in use. You can enter curve data for one or multiple CBS codes using Bulk Edit.

If you are doing cash flow by commitment and you are including change orders in the curves (for cost information and auto distribution), you will see all commitment records in the Details window—the base commit and any change commits. You can enter curve data for one or multiple records using Bulk Edit.

Note

If you are editing a Contract-type BP, the total in the Bulk Edit will be highlighted in the details screen of the cash flow by contract curve.

To enter cash flow data using Bulk Edit:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a curve from the log and double-click the curve to open the Cash Flow worksheet window.
4. Open the right pane by way of moving the split screen to display the Cash Flow Worksheet Cash Flow Details pane, and select **Baseline** or **Forecast**.
5. Select one or more rows and select **Bulk Edit**. The Bulk Edit window opens.
6. The fields that are editable for the curve (based on the Properties window options) will display.
7. Enter values for the fields.
8. Select the **Update** checkbox for the fields you want to update.

Note

You can use the Bulk Edit button to edit multiple items in the chosen currency. The total in the Bulk edit window will be interpreted in the currency selected in the details screen (lower part of the worksheet window.)

9. Select the **Update** button.

CBS Curve

Within a CBS curve, the following toolbar options let you:

- Alter the view (from the **View menu**, select a different view)
- Create a view (from the **View menu**, select **Create New View**)
- Make existing views visible or hide existing views (from the **View menu**, select **Manage Views**)
- Edit the view (select **Edit View**)
- Print the view (select **Print**)
- Update data (select **Refresh**)
- Produce a snapshot, view the snapshot log, access the audit log, and access properties (from the **Snapshot menu**, select **Create Snapshot**, **Snapshot Log**, **Audit Log**, or **Properties**)

Note

In the cash flow detail pane, any view, the values are not editable and cannot be distributed.

Within a CBS curve, the **View** option provides the following options:

- **Incremental**
- **Cumulative**

Within the preceding views, you can also access the **CBS Hierarchy View** option, which displays a hierarchical view of cost and summary codes. Selecting this option displays summarized data for total costs, unassigned costs, and date ranges in a view-only mode, whether schedules are entered manually or automatically entered through an Activity Sheet. The view retains any filters already applied, which ensures that only the specific cost codes that you defined are shown in the summarized view. You can select **Expand all** to view all codes and leaf-level codes, select **Collapse all** to display the main CBS codes, and select **Refresh** to update the data displayed. If you modify the date values in the main worksheet while the CBS Hierarchy View overlay is open, you must select **Refresh** to update the hierarchy view.

Note

If you update a View using the **Filters** tab, you must close the **CBS Hierarchy View** window and reopen it to see updated information.

For more information, see the following topics located in the [Detail Curve](#) section.

- [Detail Curve View \(Incremental\)](#)
- [Detail Curve View \(Cumulative\)](#)
- [Importing Cash Flow Data](#)
- [Bulk Edit Cash Flow](#)

Summary Curve

Within a summary curve, the following toolbar options let you:

- Alter the view (from the **View menu**, select a different view)
- Create a view (from the **View menu**, select **Create New View**)
- Make existing views visible or hide existing views (from the **View menu**, select **Manage Views**)
- Edit the view (select **Edit View**)
- Print the view (select **Print**)
- Update data (select **Refresh**)
- Produce a snapshot, view the snapshot log, access the audit log, and access properties (from the **Snapshot** menu, select **Create Snapshot**, **Snapshot Log**, **Audit Log**, or **Properties**)

Note

In the cash flow detail pane, any view, the values are not editable and cannot be distributed.

Within a summary curve, the **View** option provides the following options:

- **Incremental**
- **Cumulative**

Project or Shell Cash Flow Properties

You can access the project/shell **Cash Flow Properties** window in two ways:

- **Cash Flow** log
- Cash flow curve worksheet

To access the Cash Flow Properties window through the Cash Flow log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a cash flow curve from the log.
4. Select the *gear menu* (⚙️) and select **Properties** to open the **Cash Flow Properties** window of the selected record.

To access the Cash Flow Properties window through the cash flow curve worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select a cash flow curve from the log.
4. Select the *gear menu* (⚙️) and select **Open** to open the cash flow curve worksheet of the selected record.
5. Select the **Snapshot** menu to open.
6. Select the **Properties** option to open the **Cash Flow Properties** window of the selected record.

The **Cash Flow Properties** window is divided into two panes. The left pane shows the **General** block and the right pane shows the **Curves** block.

The following explains the components of each pane in detail.

Project or Shell Cash Flow Properties (General Pane)

The following explains the fields under the **General** block. The next topic explains the fields under the **General** block: **More Options**.

Note

The red asterisk by a field indicates that the field is required.

Under the **General** block, you can manage the following cash flow properties:

- **Name:** Enter a unique name for the curve in the Name field.
- **Description:** (Optional) Enter a brief description in the Description field.
- **Detail Level:** Select a detail level option from the Detail Level box. The selected option determines the level-of-data the cash flow curves will display. Choose one:
 - **Project/Shell:** Choose this to track cash flow for the entire project/shell. For example, Baseline and Actuals curves might chart the budget and cash outlay across the entire project. If applicable, select **Filter CBS Codes** or **Filter Summary CBS Codes**.
 - **Summary CBS:** Choose this option to track cash flow by summary CBS codes. To select this option, the cost sheet used in the project/shell must be a tree structure. If you select this option, the system sets the **Summary CBS Level** to **1** by default. You can select another level, based on what is available in the Cost Sheet.
 - **CBS:** Choose this to track cash flow within a project/shell at the CBS code level. This lets you track cash flow across the project for specific CBS codes, or for all CBS codes.
 - **Business Process (Commitments):** Choose this option to track cash flow associated with a particular commitment record and its line items. This includes, for example, a base contract and optionally their referenced Change Commits. Select a business process.
Items listed are the project/shell level business processes of type "Base Commit."
When creating a template, choose the one that is likely to be used in the projects/shells the template will be used in. When creating the curve in a project/shell from the template, you may need to verify that the business process chosen here is active in the project/shell or pick another from the list.
- **Manage Filters:** If you selected **Project/Shell**, **Summary CBS**, or **CBS**, you can refine the list of codes included. To do so, select **Manage Filters**. (The names of the subsequent pages and options changes based on whether you are filtering CBS codes or Summary CBS codes.) On the **Filter [Summary] CBS Code** page, select **Add [Summary] CBS Code**. On the **Cost Code Picker** page, select the applicable codes, and then select **Add & Add More** if you want to save your changes and add additional codes or select **Add & Close** to save your changes and return to the previous page. To save the selected cost codes, select **Done**.
- **Select Base Commit Record:** This is selectable in a project/shell, but not in a template. Click **Select**. Choose the commitment record from the list of available records in the project/shell. Each commitment record can be selected only once.
You can set up the automatic creation of a cash flow curve when a Base Commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process.
- **Select your reference element:** The worksheet will display the reference elements. By default, the **Record No.** will display as the **Number**. You can select the drop-down list and choose an element to display for the **Name** field (Contract No., Contract Terms, or Title).
- **Rollup cashflow data to company?**
 - **Yes:** The curve will roll up to company cash flow the next time the curves are refreshed.

- **No:** The curve will not roll up to company cash flow the next time the curves are refreshed.
- **Time Scale:** If you edit the time scale, the period close settings will be reset, and you will need to enter new ones for the new time scale.
The time scale determines the scale and format in which the data is shown on the cash flow worksheet.

By Month or Year: The default is Month.

Format: Choose the format that you want the month and year displayed on the graphs.
The default is M YYYY.

To save your changes, select **Save & Close**. You can continue adding curves that will make up the detail curves. To discard your changes, or close the **Cash Flow Properties** window, select **Cancel**.

Project or Shell Cash Flow Properties (General Pane - More Options)

The following explains the fields under the **General** block: **More Options**.

Note

The red asterisk next to a field box indicates that the field is a required field. You will not be able to save your changes without entering a value in that field.

When you select **More Options**, the **More Options** window opens which contains the following tabs on the left pane. Each tab provides additional options for the cash flow which are described below.

Period Close Settings tab

This tab lets you set the option: **Enable auto snapshot**

The **Period Close Settings** tab lets you choose some automatic settings that will happen at the end of each period (month or year, as chosen in the Time Scale field).

When you select the **Enable auto snapshot** option, you determine when the system must take an automatic snapshot of the data.

If you selected Month for Time Scale:

You can choose a specific date each month to automatically take a snapshot, or you can specify a particular day (such as the first Monday of the month).

If you selected Year for Time Scale:

You can specify the exact date to take the snapshot each year (or a particular day such as the first Monday of January).

After an auto snapshot is taken, the curve will be refreshed immediately. Actuals (Spends) will resume after the auto snapshot is complete.

Examples of using the options: **Enable auto snapshot**, **Cutoff spends**, and **Resume Spends**

Company A wants to take an auto snapshot of its cash flow data every time period. Company A would choose a particular date (such as the 3rd of the month for Month, or January 3 for Year). The system would take the snapshot and refresh the cash flow curve. They do not select the Cut off spends option.

Company B regularly reviews and revises forecast projections during fixed days every time period. Because it does not want new Spends records to hit the cash flow worksheet during this period, they choose the **Cut off spends** option. This option requires that you select the **Enable auto snapshot** first. The company sets this option so that an auto snapshot is taken of their changes just before spends are resumed. Snapshots can then be used for comparison of previous forecasts with the current month. Any spends records that came in during the forecast period are not lost; the **Resume Spends** option determines whether those spends records will be included in the previous month's cash flow or pushed to the next time period.

Cutoff spends

This option is applicable for Actuals (Spends) type curves.

Selecting this option will temporarily stop spends business processes (for example, Invoices) from hitting the cash flow worksheet during analysis periods.

The **Enable auto snapshot** option must be selected first. Actuals (Spends) will resume after the auto snapshot is complete.

If no value is specified, the last date of the current month is presumed.

The system marks the time of the **Cutoff spends** date at the beginning of the day. For example, on June 30, the data can become locked at the beginning of the day and not at the end of the day, therefore, preventing the user from making any last minute changes before the start of the next month.

Apply Spends to

The selections under this period close settings option let you apply spends to an effective date or before/after a **Cutoff spends** date.

By default, **Cutoff spends** will resume immediately after an auto-snapshot is taken.

Note If there is a gap between the Cutoff spends date and the **Enable auto snapshot** date, any spends that came during that period are not lost.

For example, if a **Cutoff spends** date is October 26 and the **Enable auto snapshot on date** is November 2, (and the Time Scale is monthly) that defines the freeze period. Any spends that come in on October 27, 28, 29, 30, 31, and November 1 will not hit the cash flow sheet during the freeze period. After the **Enable auto snapshot on date** is reached, spends will be included back in October for spends (Oct 27-31) or November for spends (Nov 1-2), and the effective date will be retained.

The same month/year as the effective date

The text of the options under **Apply Spends to** change based on the selection that you made for the Time Scale (By: Month or By: Year).

If this option is chosen, spends data is included back in the current period after the freeze period is lifted. The final output is similar to the case where no period close settings are applied because the effective date is retained. Spends for Oct 26-31 will be included in October and Nov. 1-2 spends will be included for November.

For example, if the cutoff date is the 26th of October and the snapshot date is the 2nd of November, the freeze period is Oct 26 - Nov 2. Any spends that come in on Oct 27, 28, 29, 30, 31 and Nov 1 and 2 will not show on the cash flow sheet during the freeze period. After the auto snapshot date is reached, these spends will be included back in either Oct for spends (Oct 27-31) or Nov for spends (Nov 1-2) and the effective date will be retained.

The next month/year if after the cutoff date

After the freeze period is lifted, spends data from the cutoff date to the end of the month will be included in the next month/year. Spends for Oct 26-31 will be included in November and Nov 1-2 spends will be included for November.

The previous month/year if on or before the cutoff date

After the freeze period is lifted, spends data from the start of the month up to the cutoff date will be included in the previous month/year. Spends for Oct 26-31 will be included in September and Nov 1-2 spends will be included for November.

During the **Cutoff spends** period, even if automatic refresh of the curve occurs as set in the **Schedule** tab, spends data will not hit the cash flow sheet until spends are resumed again.

Summary tab

This tab lets you automatically add the selected curve to a selected summary curve. This tab contains a list of available summary curves to choose from.

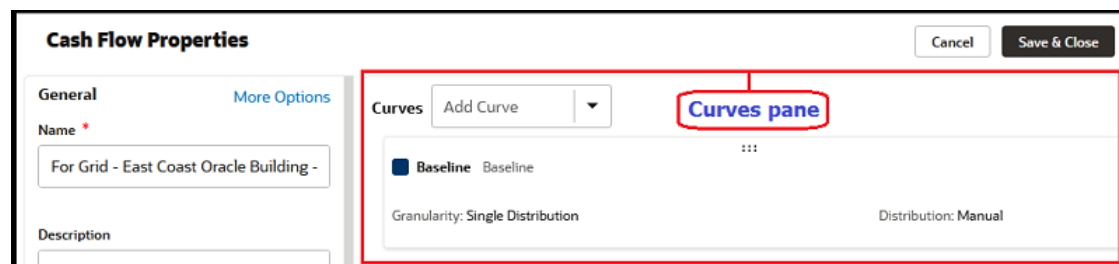
Decimal Options tab

This tab provides two options:

- **Decimal Options:** To specify the number of decimal places supported for amounts throughout the cash flow, select this option.
- **Use Currency Decimal Precision:** To ensure that the cash flow preserves the number of decimals used within areas such as Base Currency, Project Currency, and Transaction Currency, select this option.

Project or Shell Cash Flow Properties (Curves Pane)

As shown in the screen capture below, the **Cash Flow Properties** window **Curves** pane contains the **Curves** drop-down list, which lets you add or remove curves.



After you add a curve, the system adds an interactive image representation of the added curve to the **Curves** pane.

The following explains the elements of the **Curves** pane.

Curves

Select **Curves** to open a list that contains the list of available curves.

These curves, or data sources, have been defined by the Administrator in the **Standards & Libraries** module. (Go to the **Company Workspace** tab, and switch to **Admin** mode; in the left Navigator, select **Standards & Libraries**, then select **Cash Flow**, and then select **Data Sources**.)

The **Cashflow Datasources** window, where the Administrator edits the list of data sources, contains a list of data sources that are categorized by name, curve type and color. For example, the name of a data source can be **Actuals** which is assigned to a **Spends** curve

type, or the name of a data source can be **Original Budget** which is assigned to a **Portfolio Budget** curve type.

Different names can be assigned to on curve type. That is to state, depending on the curve type, the curve setup options will differ. The admin can define one curve for every data source.

For more information, see [Project or Shell Cash Flow Properties Curves Pane and Curve Types](#).

Note

The **Portfolio Budget** curve is linked to scenarios in the **Portfolio Manager**. The Project Manager must create this curve. After it is created, the curve shows the initial budget projections.

The list of available curves include:

- **Baseline** curve
- **Actual** (Spends) curve
- **Forecast** curve
- **Derived** curve
- **Portfolio** Budget curve
- **Custom** curve

When you open a curve, you can view the data in the transaction currency, if the transaction currency is different than the project currency.

If a curve, or data source, is available within the **Curves** pane (interactive image representation of the added curve), double-click anywhere on the image to open the curve window. In this window, you can see the curve type information as well as information related to the curve, as described in the following table. If you make any changes, select **Update** to save your changes.

Curve Type	Description
Granularity	• Single distribution of sum of Base Commit and all changes • By individual record (base commit and all changes separately) • By line items within each individual record
Distribution Method	• Manual entry of values for each cash flow period • Manual dates and manual profile selection • Business process dates and default profile selection
Select change orders you want to include	• List of Business Processes and corresponding statuses are presented. Manual entry of values for each cash flow period • Manual dates and manual profile selection • Business process dates and default profile selection • You have the option to add methods to the distribution method or remove methods from the distribution method.
Variance	Your options are Inflow or Outflow . See the following topics for details about Variance values.

To add a curve:

1. Select **Curves**.
2. Select a data source, or curve, from the list (for example, select **Forecast**) to open the data source window.
3. Enter values in the fields, and select **Add**, when finished.

Project or Shell Cash Flow Properties Curves Pane and Curve Types

This topic provides details about adding curves to the cash flow.

You can construct cash flow curves by:

- **Project/Shell**
- **Summary CBS** (Summary CBS Code) If you select this option, the system sets the **Summary CBS Level** to **1** by default. You can select another level, based on what is available in the Cost Sheet.
- **CBS** (CBS Code)
- **Commitment** (a specific commitment BP and record)

The following topics explain the process for adding the following curves to a cash flow worksheet, for comparison:

- **Baseline** curve
- **Forecast** curve

Note

The procedures that follow:

- Assume that you have created your data sources.
- Describe how to add a curve type to an *existing* cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Baseline Curve

The following topics explain how to add a **Baseline** curve for cash flow by:

- **Project/Shell**
- **Summary CBS or CBS**
- **Commitment or Business Process (Commitments)**

Note

The procedures that follow:

- Assume that you have created your data sources.
- Describe how to add a curve type to an existing cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Adding a Baseline Curve for Cash Flow by Project or Shell

To add a Baseline curve for cash flow by project/shell:

1. Go to the shell tab, and switch to **User** mode.

This is the shell that contains the cash flow that you want.

2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.

The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* (⚙️) and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that the **Project/Shell** option is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**
 - **Business Process (Commitments)**
6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Baseline** to open the **Baseline** window.
7. Complete the fields in this window by using the following information. When finished select **Save & Close** to save your work and open the cash flow worksheet that you have added.

When you select the **Project/Shell** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Baseline** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Cost	 Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select <i>one</i> of the following options: Manual Lets you manually enter amounts for each period. This option will be available if you have chosen Manual in the Distribution drop-down list. You can enter cost information in the Total field on the worksheet. Distribute amount from Cost Sheet Column Lets you use the default distribution profile. This option will be available if you have chosen Auto by default profile in the Distribution drop-down list. Examples of column: Approved Budget Revisions, Approved Commitment Changes, Approved Contracts, and so forth.
Schedule	Lets you define the range of dates (what dates to start the curve and end the curve) to use to plot the cash flow data.  Note If you choose to take dates from the schedule sheet elements, the system uses the Master schedule sheet for the project/shell. Select <i>one</i> of the following options for each date: Manual: Select this option to manually enter the date in the cash flow worksheet. Use dates from Schedule Sheet: Select this option to select a schedule sheet (from the Select schedule sheet drop-down). You can populate the From and To dates according to the schedules available (Example: Actual Start Date and Actual Finish Date) pertinent to the schedule sheet that you have selected for the Select schedule sheet drop-down. If these dates are changed on the selected schedule sheet, the changes will be reflected on cash flow after the next refresh of the curves. Use dates from Activity Sheet: Lets you select an activity sheet (from the Select Activity Sheet window). After you select using dates from an activity sheet, you must determine the values for the Project Type, From Date, and To Date fields.

Parameter	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. Select <i>one</i> of the following options for how to distribute the data automatically between cash flow time periods: • Manual Lets you enter values into each field manually. • Company Level Lets you select a pre-determined method for distribution. Your options are: – Linear – S curve – Front Loaded – Back Loaded • Project Level Lets you select from a list of available project levels. The distribution profiles are defined in the: • Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. or • Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. The default profile is used for the initial display and calculations in the cash flow worksheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection. When you build a Baseline curve for individual line items, the Schedule of Value (SOV) type influences the distribution options. • If the SOV lists individual line items by CBS, you can distribute cost for each line item individually. • If the SOV groups line items, you cannot distribute cost for each line item individually.
Variance	Your choices are: • Inflow • Outflow For Project/Shell, typically, the Variance is set to Inflow for a Baseline type curve. The value will be used to calculate variances against the Outflow type curves.

Adding a Baseline Curve for Cash Flow by Summary CBS or CBS

To add a Baseline curve for cash flow by Summary CBS or CBS:

1. Go to the shell tab that contains the cash flow, and switch to **User** mode.

2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow**, the starting point for all cash flow operations.
3. In the **Cash Flow** log:
 - a. Select a cash flow.
 - b. Select the *gear menu* () and select **Properties**.
4. In the **General** pane of the **Cash Flow Properties** window, select any of the following options from the **Detail Level** drop-down list:
 - *Summary CBS* (for summary CBS codes)
 - *CBS* (for cash flow by individual CBS codes)
5. In the **Curves** pane of **Cash Flow Properties** window, select *Baseline* from the **Curves** drop-down list.
6. In the **Baseline** window, select the cash flow properties for a Baseline curve. For more information, see the tables below.

You can cost-load a schedule sheet by assigning roles and resources to project-related activities. When you associate a CBS code with an activity in the schedule sheet, the system can distribute its cost over a period of time based on activity dates and the calendar. You will be able to view this distributed cost along with other cash flow curves related to the project.

To ensure that Cash Flow curves represent CBS codes, schedule dates, and costs from the baseline and not just the current project, you can manually enter CBS codes on the Activity Sheet when you switch to Baseline Project View.

You can create another Baseline curve by selecting a Cost Sheet as the source for cost or create a Forecast, Spends, and Custom curve. In all these cases, the list of CBS codes will be from the cost sheet and will not be filtered by the schedule sheet.

The cash flow will pull distribution data (Linear, S-Curve, On Start and Finish) from a schedule sheet.

Cash Flow Properties Setup For a Baseline Curve by Summary CBS

When you select the **Summary CBS** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Baseline** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Property	Description
Cost	 Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select your cost source as <i>one</i> of the following options: Manual: Select this option if you want to manually enter amounts for each period. You can enter cost information in the Total field on the worksheet. This option is available if you select <i>Manual</i> in the Distribution drop-down list. Distribute amount from Cost Sheet Column: Select this option if you want to use the default distribution profile. This option is available if you select <i>Auto</i> in the Distribution drop-down list. For example, columns such as <i>Approved Budget Revisions</i>, <i>Approved Commitment Changes</i>, <i>Approved Contracts</i>.

Property	Description
Schedule	Define the range of dates to use for plotting the cash flow data. These are the dates you specify to start the curve and end the curve.  Note If you choose to take dates from the schedule sheet elements, the Master schedule sheet is used for the project/shell. Select <i>one</i> of the following options: • Manual: Select this option if you want to manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Select this option if you want to select dates from a schedule sheet. Select a specific sheet from the Select schedule sheet list, and proceed to enter dates in the From Date and To Date fields to plot the cash flow curve from the selected schedule sheet. For example, <i>Actual Start Date</i> and <i>Actual Finish Date</i>. Selecting Use dates from Schedule Sheet option allows you to access the individual Schedule Sheet. The CBS (or Summary CBS) code shows the dates of the actual CBS (or Summary CBS) related activities. • Use dates from Activity Sheet: Select this option if you want to select dates from an activity sheet. Select a sheet from the Select Activity Sheet window, and proceed to specify the Project Type, From Date, To Date, and Periods for Cost Distribution to plot the cash flow curve from the selected activity sheet.
Project Type	If you chose the Schedule as <i>Use Dates from Activity sheet</i> , select the project as either <i>Baseline</i> or <i>Current</i> .
From Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the start date to use for plotting the cash flow curve.
To Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the end date to use for plotting the cash flow curve.

Property	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. Select a distribution profile to use as the default distribution profile for the curve. Select any of the following options: • Manual: Select this option if you want to enter values in each field manually. • Auto: Select this option if you want to specify a default distribution profile for initial display and calculations in the cash flow worksheet. If you change the distribution profile from the worksheet, the default profile is also updated to reflect the current selection. To specify a default distribution profile: 1. Select the CBS Profile Distribution button. 2. In the Distribute by default profile CBS window: a. Select a predetermined distribution method (at the Company Level or Project Level) from the Set Profile drop-down list. The distribution profiles for this field are defined in the following locations: – Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. - or – Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. b. Select one or more WBS codes from the list, and select Update.
Periods for Cost Distribution	This field displays only if you have selected the Schedule option as <i>Use Dates from Activity Sheet</i>, and Distribution as <i>Auto</i> Select any of the following options to specify how to distribute the costs based on the activity schedule: • Consecutive Periods: Select this option to distribute costs based on the profile from the earliest start to the latest finish dates across activities for each CBS or Summary CBS code. This is the default option for new or existing curves if you selected Schedule as <i>Use Dates from Activity Sheet</i>. • Exclude Gap Periods: Select this option to distribute costs by honoring gaps between activities if there are multiple activities for the same CBS Code. • Honor Working Days: Select this option to distribute costs based on the working days of activities.

Property	Description
Variance	For Summary CBS, typically, the Variance is set to Inflow for a Baseline type curve. This value is used to calculate variances against the Outflow type curves. Your choices are: • <i>Inflow</i> • <i>Outflow</i>

Cash Flow Properties Setup For a Baseline Curve by CBS

When you select the **CBS** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Baseline** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Property	Description
Bring Baseline Data From	Specify the source of your baseline data. Select any of the following options: • General: Select this option if you want to bring data from a general CBS code. • Schedule Sheet: Select this option if you want to choose a schedule sheet and view the cost distribution information by CBS. To use data from schedule sheet, click the select icon to open and select a schedule sheet in the Select Schedule Sheet window. • P6 Summary Sheet: Select this option if you want to use cost and dates information from P6 Summary Sheet (spread), based on the P6 Data Sources. Proceed to specify the Data Type. The P6 Data Sources are listed in the Cashflow Data Sources window. (To access this window, go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select Standards & Libraries, select Cash Flow, and then select Data Sources.) • Activity Sheet: Select this option if you want to use cost and dates information from an activity sheet. Proceed to specify the Sheet Name, Project Type, Cost and Schedule & Distribution.
Data Type	This field displays if you chose to Bring Baseline Data From a <i>P6 Summary Sheet</i>. Select any of the following values: • <i>At Completion:</i> Select this option if you want to draw the Baseline curve using the At Completion Cost spread. • <i>Planned:</i> Select this option if you want to draw the Baseline curve using the Planned Cost spread.
Sheet Name	If you chose to Bring Baseline Data From an <i>Activity Sheet</i>, select an activity sheet.

Property	Description
Cost	 Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select your cost source as <i>one</i> of the following options: • Manual: Select this cost option if you want to manually enter amounts for each period. This option will be available if you selected the Distribution as <i>Manual</i>. This allows you enter cost information in the Total field on the worksheet. • From Activity Sheet Column: This cost option displays if you chose to Bring Baseline Data From an <i>Activity Sheet</i>. Select a column from the Activity Sheet such as <i>At Completion Cost</i>, <i>Planned Cost</i>, or <i>Remaining Cost</i>, and so forth. • From Cost Sheet Column: Select this cost option if you if you chose to Bring Baseline Data From an <i>Activity Sheet</i>., and want to use a default distribution profile. This option is available if you selected the Distribution field value as <i>Auto</i>. From the drop-down list, select a column name such as <i>Approved Budget Revisions</i>, <i>Approved Commitment Changes</i>, <i>Approved Contracts</i>, and so forth.
Schedule & Distribution	If you chose to Bring Baseline Data From an <i>Activity Sheet</i> , select a column for the Schedule & Distribution method.

Property	Description
Schedule	Define the range of dates to use for plotting the cash flow data. These are the dates you specify to start the curve and end the curve. Note If you choose to take dates from the schedule sheet elements, the system uses the Master schedule sheet for the project/shell. Select <i>one</i> of the following options: • Manual: Select this option if you want to manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Select this option if you want to use a schedule sheet from the Select schedule sheet list. Proceed to enter dates in the From Date and To Date fields to plot the cash flow curve using the selected schedule sheet. If these dates are changed on the selected schedule sheet, the changes are reflected on cash flow after the next refresh of the curves. • Use dates from Activity Sheet: Select this option if you want to use an activity sheet from the Select Activity Sheet window. When you select this option, you will need to also specify the Project Type, From Date, To Date, and Periods for Cost Distribution.
Project Type	If you chose to Bring Baseline Data From an <i>Activity Sheet</i> , select the project as either <i>Baseline</i> or <i>Current</i> .
From Date	If you chose the Schedule as <i>Use Dates from Schedule Sheet</i> or <i>Use Dates from Activity Sheet</i> , select the start date to use for plotting the cash flow curve.
To Date	If you chose the Schedule as <i>Use Dates from Schedule Sheet</i> or <i>Use Dates from Activity Sheet</i> , select the end date to use for plotting the cash flow curve.

Property	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. Select any of the following options: • Manual: Select this option if you want to enter values into each field manually. • Auto: Select this option if you want to specify a default distribution profile for initial display and calculations in the cash flow worksheet. If you change the distribution profile from the worksheet, the default profile is also updated to reflect the current selection. To specify a default distribution profile: 1. Select the CBS Profile Distribution button. 2. In the Distribute by default profile CBS window: a. Select a predetermined method for distribution (at the Company Level or Project Level) from the Set Profile drop-down list. The distribution profiles for this field are defined in the following locations: – Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. – Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. b. Select one or more WBS codes from the list, and select Update. Note The Auto option is selected by default, if you selected the Schedule option as <i>Use Dates from Activity</i>. Additionally, if you also selected the Periods for Cost Distribution option as <i>Honor working days</i>, Auto displays as a read-only field, and you can no longer select a default distribution profile.

Property	Description
Periods for Cost Distribution	This field displays only if you have selected the Schedule option as <i>Use Dates from Activity Sheet</i>, and Distribution as <i>Auto</i>. Select any of the following options to specify how to distribute the costs based on the activity schedule: • Consecutive Periods: Select this option to distribute costs based on the profile from the earliest start to the latest finish dates across activities for each CBS or Summary CBS code. This is the default option for new or existing curves if you selected Schedule as <i>Use Dates from Activity Sheet</i>. • Exclude Gap Periods: Select this option to distribute costs by honoring gaps between activities if there are multiple activities for the same CBS Code. • Honor Working Days: Select this option to distribute costs based on the working days of activities.
Variance	For CBS, typically, the Variance is set to Inflow for a Baseline type curve. This value is used to calculate variances against the Outflow type curves. Your choices are: • <i>Inflow</i> • <i>Outflow</i>

Adding a Baseline Curve for Cash Flow by Business Process (Commitments)

A Commitment BP (such as a Base Commit or a Change Commit) is a sub-type of a Cost type BP.

You can build one **Baseline** curve per **Business Process (Commitments)** record.

To add a Baseline curve for cash flow by Business Process (Commitments):

1. Go to the shell tab, and switch to **User** mode.
This is the shell that contains the cash flow that you want.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.
3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that a record under the **Business Process (Commitments)** label is selected from the **Detail Level** drop-down list.
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**

- **Business Process (Commitments)**

6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list, and select **Baseline** to open the **Baseline** window.

When you select the **Business Process (Commitments)** option in the **Detail Level** drop-down list and a **Base Commit** record (from **Select Base Commit Record**) in the **General** pane, and in the **Curves** pane you add **Baseline** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Granularity	The cash flow Granularity option that you select determines the: • Distribution Method options that are available. • Level of record detail available in the cash flow curve. You can roll up Base Commit and Change Commit and see individual records separately, or you can drill to individual line items in a Business Process (Commitments) record. The options that you can select from are: • Single distribution of sum of base commit and all changes: Selecting this option limits the Distribution Method to Manual entry of values per cash flow period. In User mode, you must open the cash flow details window to complete time scale fields and distribute the rolled up values of the Base Commit record and any Change Commit records. • By individual record (base commit and all changes separately): Selecting this option lets you choose from the following options for the Distribution Method: – Manual entry of values per cash flow period: Use this option to enter the time scale manually and to distribute costs. – Manual Dates and manual profile selection: Use this option to enter the time scale manually and select a distribution curve. – Business process dates and default profile selection: Use this option to select the time scale from fields on the business process. Select Details to open the selection window. Use this option to enter dates manually and select a distribution profile. In User mode, the curve data is read-only, but you can change the distribution profile. This selection requires a sub-selection. There are four columns in the Auto Distribution window: * Business Process: The list comes from the Cost-type business processes available in your company. * From Data Element: Select the date on which you want the distribution to start. You can only select a Date element from the Upper Forms and not from the Business Process Detail forms. * To Data Element: Select the date on which you want the distribution to end. * Default Profile: If desired, select a pre-defined profile. • By line items within each individual record: Selecting this option lets you select from the following Distribution Method options:

Parameter	Description
	– Manual entry of values per cash flow period: Use this option to select record line items. In User mode you can: * See each selected line item in the cash flow details window; the columns come from the business process. * Select a profile on the detail window for each line. * Select the distribution profile manually. – Manual Dates and manual profile selection: Use this option to enter the time scale manually and select a distribution curve.
Distribution Method	The Cash Flow Granularity option that you select determines the Distribution Method options that are available, as described earlier, and the level of record detail available in the cash flow curve. By default, the system displays Business Process (Commitments) curve cost data in the record transaction currency, which is stored in project currency (using the active currency exchange rate table). If the transaction currency is different from the project currency, you can change the currency view between transaction and project currencies, but you can only edit data in the transaction currency. If there is a more recent value in the exchange rate table, refreshing the curve will refresh the cost data. For more information, see Transaction Currency in Baseline Curve for Cash Flow by Business Process (Commitments).
Select change orders you want to include	Add or remove business process from the list. Add Change Commit BPs, according to the status. These line items are also seen in the cash flow curve details window.
Variance	Your choices are: • Inflow • Outflow For Business Process (Commitments), typically, the Variance is set to Inflow for a Baseline type curve. The value will be used to calculate variances against the Outflow type curves.

Transaction Currency in Baseline Curve for Cash Flow by Business Process (Commitments)

For costs distributed in the transaction currency, the system calculates and stores the distribution in project currency using the exchange rate table.

As a result, in curves based on a Business Process (Commitments) record, the system shows cash flow in the transaction currency of the record when it was created. The system stores the data in project currency.

If the project currency is different from the transaction currency, both the main and detail windows contain a currency drop-down list which you can use to show costs in the project currency; however, you can only edit data in the transaction currency mode.

Currency conversion is based on the active company-level Exchange Rates table.

Bulk edit is unavailable if the detail window is in project currency mode.

In curves based on a Business Process (Commitments) record, the detail window shows columns from the Business Process. For example, Number, Name, Line No, CBS Code, Description (Short Description).

Actuals (Spends) Curve

The Actuals (or "spends") curve tracks the actual invoice transactions. Actuals pulls the data from a column of the cost sheet. As a result, you must select a column associated with the data source for the **Spends** type business process and status that you want to track.

Note

These curves display actual spent amounts per time period and are not editable or distributed.

The following topics explain how to add an **Actuals** (Spends) curve for cash flow by:

- **Project/Shell**
- **Summary CBS or CBS**
- **Commitment or Business Process (Commitments)**

Note

The procedures that follow:

- Assume that you have created your data sources.
- Describe how to add a curve type to an *existing* cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Adding Actuals (Spends) Curve for Cash Flow by Project or Shell

To add Actuals (or "spends") curve for cash flow by project/shell:

1. Go to the shell tab, and switch to **User** mode.
This is the shell that contains the cash flow that you want.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.
3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).

5. In the **Cash Flow Properties** window **General** pane, ensure that the **Project/Shell** option is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:

- **Project/Shell**
- **Summary CBS**
- **CBS**
- **Business Process (Commitments)**

When you select the **Project/Shell** option in the **Detail Level** drop-down list, you have the option to filter for either the CBS Codes, or filter for the Summary CBS Codes.

6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Actuals** to open the **Actuals** window.
7. Complete the fields in this window by using the following information. When finished select **Save & Close** to save your work and open the cash flow worksheet that you have added.

When you select the **Project/Shell** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Actuals** (or "spends") curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Cost	Note You can choose the cost column when creating a curve in a project/shell but not in templates (because there is no cost sheet to reference in a template). Lets you select a cost sheet column (for example: Approved Budget Revisions, Approved Commitment Changes, and so forth). If you are creating a detail curve template, you will not be able to add an Actuals (or "spends") curve.
Variance	Your choices are: • Inflow • Outflow For CBS, typically, the Variance is set to Outflow for an Actuals (Spends) type curve. The value will be used to calculate variances against the Inflow type curves.

Adding Actuals (Spends) Curve for Cash Flow by CBS Summary or CBS

To add an Actuals (or "spends") curve for cash flow by Summary CBS or CBS:

1. Go to the shell tab, and switch to **User** mode.
This is the shell that contains the cash flow that you want.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.

The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.

3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that either **Summary CBS** (for summary CBS codes) option or **CBS** (for cash flow by individual CBS codes) is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**
 - **Business Process (Commitments)**
6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Actuals** to open the **Actuals (Curves Type: Spends)** window.

The following explains the details regarding the following selections:

- **Summary CBS**
- **CBS**

When you select the **Summary CBS** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Actuals** (or "spends") curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Cost

You can choose the cost column when creating a curve in a project/shell but not in templates (because there is no cost sheet to reference in a template).

Lets you select a cost sheet column (for example: Approved Budget Revisions, Approved Commitment Changes, and so forth).

If you are creating a detail curve template, you will not be able to add an **Actuals** (or "spends") curve.

Set Effective Date for CBS

The data of the curve before this date will not be included in the cash flow.

(Optional) Indicate whether you want to set an effective date for the Cost Based Schedule (CBS) code.

For setting the date for CBS and Summary CBS type cash flow curves, see the information below.

Variance

This is set, typically, to **Outflow** for an **Actuals** (or "spends") curve.

This will be used to calculate variances against the Inflow type curves.

When you select the **CBS** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Actuals** (or "spends") curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Bring Actuals Data From

Your options are:

- **Generic**
Enables you to select to bring data from a general CBS code.
- **P6 Summary Sheet**
The cash flow by Summary CBS - Actuals does not have this option.

The data picker lists all the P6 data sources. The P6 data sources are listed the **Cashflow Datasources** window. (To access this window, go to the **Company Workspace** tab, and switch to **Admin** mode; in the left Navigator, select **Standards & Libraries**, select **Cash Flow**, and then select **Data Sources**.)

This option is not available (greyed out) when the project/shell Schedule Type = Duration Based.

If you select this option, the system draws the **Actuals** (or "spends") curve by using the Actual Cost spread from the selected P6 data source.
- **Activity Sheet**
Select an activity sheet from the **Sheet Name** drop-down list.

Select a project type from the **Project Type** drop-down list.

(Required) Select your cost source from the **Cost** drop down list. Your options are:
 - **From Activity Sheet Column**
 - **From Cost Sheet Column**
(Required) Select the schedule and distribution method from the **Schedule & Distribution** drop-down list.

Cost

You can choose the cost column when creating a curve in a project/shell but not in templates (because there is no cost sheet to reference in a template).

Lets you select a cost sheet column (for example: Approved Budget Revisions, Approved Commitment Changes, and so forth).

If you are creating a detail curve template, you will not be able to add an Actuals (or "spends") curve.

Set Effective Date for CBS

The data of the curve before this date will not be included in the cash flow.

(Optional) Indicate whether you want to set an effective date for the Cost Based Schedule (CBS) code.

For setting the date for CBS and Summary CBS type cash flow curves, see the information below.

Variance

This is set, typically, to **Outflow** for an **Actuals** (or "spends") curve.

This will be used to calculate variances against the Inflow type curves.

CBS and Summary CBS Type Cash Flow Curves (Actuals)

For CBS and Summary CBS type cash flow curves, where the data is coming from cost sheet, if you do not want the Actuals amounts to be used until a certain date, so that the cash flow is accurate, you can set an effective date for the cash flow curve.

Either after you have created a cash flow worksheet, or you have an existing cash flow worksheet, to determine to whether set an effective date for CBS and Summary CBS type cash flow curves:

1. In the Cash Flow log, select the *gear menu* (⚙️) of your CBS, or Summary CBS, type cash flow, and select Properties.
2. In the Cash Flow Properties window, open the Actuals curve.
3. In the Actuals window, select **Set Effective Date for CBS**, and select one of the following choices:
 - **No** (Default value)
 - **Yes**

If you select **No**, the effective date will remain as is.

If you select **Yes**, the Define Effective Dates option will appear on the Actuals window. This date represents the date from which the Actuals data are included in the cash flow curve.

- a. Select **Define Effective Dates** to open the **Define Date per CBS** window.
- b. In the **Define Date per CBS** window, select the CBS items that you must set an effective date for. You can select one or more rows (CBS codes) and bulk select the date time.
- c. Select a date and time (in the **Select Date Time** field).

The effective date serves as a cut-off date and time. Any data before this effective date (time) will not be included in cash flow curve.

The Variance calculations and the Forecast curve calculations will retain the data of Actuals curve.

The Distribution profiles of the Forecast curve will also use the effective date as the start for the Actuals.

If the cash flow is used for rollup, the cash flow data will roll up, considering the effective date.

The date reset options (Remove Effective Dates) enables you clear the effective date, from the selected CBS codes.

Shell templates that contain CBS and Summary CBS type cash flow curves (Actuals) with a set effective date can be used to update existing shell templates.

You can set effective date (date and time) for CBS and Summary CBS type cash flow curves (Actuals) in a shell template, instead of defining the dates for every new curve individually, and push the template.

When integrated with Web Services, the effective date can be included to help the users create the cash flow curve directly, without having to change the dates in Unifier.

Adding Actuals (Spends) Curve for Cash Flow by Business Process (Commitments)

A Commitment BP (such as a Base Commit or a Change Commit) is a sub-type of a Cost type BP.

You can build one **Actuals** (Spends) curve per **Business Process (Commitments)** record.

To add an **Actuals** (Spends) curve for cash flow by Business Process (Commitments):

1. Go to the shell tab, and switch to **User** mode.
This is the project/shell that contains the cash flow that you want.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.
3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* (⚙️) and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that a record under the **Business Process (Commitments)** label is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**
 - **Business Process (Commitments)**
6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Actuals** (Spends) to open the **Actuals (Curve Type: Spends)** window.

When you select the **Business Process (Commitments)** option in the **Detail Level** drop-down list and a **Base Commit** record (from **Select Base Commit Record**) in the **General** pane, and in the **Curves** pane you add **Actuals** (Spends) curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Granularity	The options that you can select from are: • By Business Process • By line items from Schedule of Values (SOV) The cash flow Granularity option that you select determines the: • Distribution Method options that are available. • Level of record detail available in the cash flow curve. You can roll up Base Commit and Change Commit and see individual records separately, or you can drill to individual line items in a Business Process (Commitments) record.
Cost	Under the Select Spends Business Process field: Add or remove business process from the list.
Variance	Your choices are: • Inflow • Outflow For Business Process (Commitments), typically, the Variance is set to Inflow for a Baseline type curve. The value will be used to calculate variances against the Outflow type curves.

Cash Flow by Commitment and Cash Flow Family Curves for Actuals (Spends) Curve

In the cash flow family curves for **Actuals** (or "spends") curve for the cash flow by Business Process (Commitments) for:

- Base Commits
- Change Commits
- Payment Application BPs of Summary Payment Application SOV type

If the **Effective Date** (uuu_effective_date) field has been defined in the **Detail Form** design, this date is used as the effective date for the **Costed Line Items**. In the absence of the **Effective Date** (uuu_effective_date) field, the workflow **End Date** will be used for the **Cash Flow**.

You can see the **Costed Amount** for the **Cash Flow** curves of **Actuals** (Spends) type level **CBS** and **Summary CBS**.

You can see the **Line Item** amount for the **Cash Flow** curves of **Actuals** (Spends) type level **Project/Shell**.

Actuals (Spends) Curve and Forecast Curve

The system complies with the initial profile. If Actuals (or "spends") are received for a portion of the curve, and the Forecast curve is connected to Actuals (or "spends"), the system takes the already-consumed-profile portion out of the equation and redistributes the unconsumed pending profile portion.

Examples:

- The Forecast curve starts from Jan 2022 - Dec 2024, stretching the system's default 20 point distribution profile over 36 periods.
- Actuals were received January 2022, February 2022, and March 2022.
- These three periods of Forecast curve already consumed 1.67 points of period distribution.
- The Forecast end date is now changed to December 2025.
- The Forecast curve is now March 31, 2022, to December 2025.
- The system then distributes the remaining 18.33 points of profile over 45 periods.

Note

The system generates Actuals information at the start of the day and uses it to update the Forecast information. Therefore, on the last day of an Auto Snapshot (the cutoff date), the Forecast does not include changes that might have occurred between the generation of the Actuals and the generation of the Forecast and the system might prevent you from updating Actuals information on the last day of the cycle.

If there are some CBS codes that have received Actuals (or "spends") and some CBS codes that did not, the CBS codes that did not receive Actuals (or "spends") will be replaced by 0 at the end of the month, or on the cutoff date (depending on the UI settings).

If there are some CBS codes that have received future Actuals (or "spends") and some CBS codes that did not, the Forecast curve will not reflect future Actuals (or "spends") until they become current.

The following section explains the **Forecast** curve.

Forecast Curve

As a part of cash flow management, forecasting is about calculating the future expenditures, based on the project schedules.

The following topics explain how to add a **Forecast** curve for cash flow by:

- **Project/Shell**
- **Summary CBS or CBS**
- **Commitment or Business Process (Commitments)**

Note

The procedures that follow:

- Assume that you have created your data sources.
- Describe how to add a curve type to an existing cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Adding a Forecast Curve for Cash Flow by Project or Shell

To add Actuals (or "spends") curve for cash flow by project/shell:

1. Go to the shell tab, and switch to **User** mode.
This is the shell that contains the cash flow that you want.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.
3. Select the cash flow from the **Cash Flow** log.
4. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that the **Project/Shell** option is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**
 - **Business Process (Commitments)**

6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Forecast** to open the **Forecast** window.
7. Complete the fields in this window by using the following information. When finished select **Save & Close** to save your work and open the cash flow worksheet that you have added.

When you select the **Project/Shell** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Forecast** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Cost	 Note The distribution method that you select determines the Cost options that are available. Select <i>one</i> of the following options: • Manual: Select this option to setup manual entry of amounts for each period. This option is available if you have chosen Manual in the Distribution drop-down list. Users can then enter cost information in the Total field on the worksheet. • Distribute amount from Cost Sheet Column: Select this option to setup a default distribution profile. This option is available if you have chosen Auto in the Distribution drop-down list. Examples of column: Approved Budget Revisions, Approved Commitment Changes, Approved Contracts, and so forth.
Schedule	This parameter enables you to plot the cash flow data. You can select <i>one</i> of the following options: • Manual • Use dates from Schedule Sheet Lets you select a schedule sheet (from the Select schedule sheet drop-down). You can populate the From and To dates according to the schedules available (Example: Actual Start Date and Actual Finish Date) pertinent to the schedule sheet that you have selected for the Select schedule sheet drop-down. If these dates are changed on the selected schedule sheet, the changes will be reflected on cash flow after the next refresh of the curves. After you select Use dates from Schedule Sheet, you must determine the values for the From Date and To Date fields. • Use dates from Activity Sheet Enables you to select an activity sheet (from the Select Activity Sheet window). After you select Use dates from Activity Sheet, you must determine the values for the Project Type, From Date, and To Date fields.

Parameter	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. Select <i>one</i> of the following options for how to distribute the data automatically between cash flow time periods: • Manual: Select this option to enter values into each field manually and therefore distribute the amount from the cost sheet column. • Company Level: Select this option to choose a pre-determined method for distribution. Your options are: <i>Linear, S curve, Front Loaded, Back Loaded</i>. • Project Level: Select this option to choose from a list of available project levels. If the initial Forecast uses a distribution profile, and it has a configuration start at the end of Actuals (or "spends"), the profile does not impact the Forecast distribution when you receive Actuals (or "spends"). The distribution profiles are defined in the: • Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. or • Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. The default profile is used for the initial display and calculations in the cash flow worksheet. You can change the distribution profile from the worksheet. If you do this, the default profile will automatically update to reflect the current selection. When you build a Baseline curve for individual line items, the Schedule of Value (SOV) type influences the distribution options. • If the SOV lists individual line items by CBS, you can distribute cost for each line item individually. • If the SOV groups line items, you cannot distribute cost for each line item individually.
Variance	Your choices are: • Inflow • Outflow For CBS, typically, the Variance is set to Outflow for an Actuals (Spends) type curve. The value will be used to calculate variances against the Inflow type curves.
Begin calculations at end of curve	Select this option if you want to automatically start the Forecast at the end of a selected Actual (or "spends") curve for each time period. Select Begin calculations at end of curve, select the drop-down list below, and select your desired option (for example, you can select Actuals (or "spends") curve, if this curve exists in the list).

Parameter	Description
Replace current period forecast with Actuals on cut off date	If you select this option and the period close settings have not been specified, the system replaces the Forecast curve with the Actuals (or "spends") curve at the end of the month. Note The cumulative graph will not show the Forecast connected to Actuals (or "spends") until the system overwrites the Forecast with the Actuals.
Allow edit of current period forecast until replacement actuals	This option lets you reconfigure the Forecast until the date set to replace the Forecasted values with Actuals (or "spends"). Note If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals options are selected, the system does not allow edits to the Forecast curve after the end of the month.
Distribute unassigned amounts from Spends	Your options for unassigned amounts are: • Using weighted average over all remaining periods • Using weighted average over ___ next periods You can enter the number of time periods (1 or more) not exceeding the number of periods remaining. The options above are available only if you have chosen to: • Select a distribution profile to use as the default distribution profile for the curve. • Select Begin calculations at end of curve option to automatically start the Forecast at the end of a selected Actual (or "spends") curve for each time period. • If you use auto distribution for a Forecast Curve with Spends enabled and you want to use the same approach for rows that are manually overridden, select the Allow distribution of unassigned amount for manual override rows checkbox.
Select Baseline curve for comparison	Select the drop-down list and select a Baseline curve to compare with the Forecast curve.

Adding a Forecast Curve for Cash Flow by CBS Summary or CBS

To add Forecast curve for cash flow by CBS Summary or CBS:

1. Go to the shell tab that contains the cash flow, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager** node, and then select **Cash Flow**, the starting point for all cash flow operations.
3. In the **Cash Flow** log:
 - a. Select a cash flow.
 - b. Select the *gear menu* (⚙️) and select **Properties**.
4. In the **General** pane of the **Cash Flow Properties** window, select any of the following options from the **Detail Level** drop-down list:
 - *Summary CBS* (for summary CBS codes)
 - *CBS* (for cash flow by individual CBS codes)
5. In the **Curves** pane of the **Cash Flow Properties** window, select *Forecast* from the **Curves** drop-down list.
6. In the **Forecast** window, select the cash flow properties for a Forecast curve. For more information, see the tables below.

Cash Flow Properties Setup For a Forecast Curve by Summary CBS

When you select the *Summary CBS* option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add *Forecast* curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Property	Description
Cost	Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select your cost source as <i>one</i> of the following options: • Manual: Select this option if you want to manually enter amounts for each period. You can enter cost information in the Total field on the worksheet. This option is available if you select <i>Manual</i> in the Distribution drop-down list. • Distribute amount from Cost Sheet Column: Select this option if you want to use a default distribution profile. This option is available if you select <i>Auto</i> in the Distribution drop-down list. For example, columns such as <i>Approved Budget Revisions</i>, <i>Approved Commitment Changes</i>, <i>Approved Contracts</i>.

Schedule	Define the range of dates to use for plotting the cash flow data. These are the dates you specify to start the curve and end the curve.  Note If you choose to take dates from the schedule sheet elements, the Master schedule sheet is used for the project/shell. Select <i>one</i> of the following options for each date: • Manual: Select this option if you want to manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Select this option if you want to select dates from a schedule sheet. Select a specific sheet from the Select schedule sheet drop-down list, and proceed to enter dates in the From Date and To Date fields to plot the cash flow curve. For example, <i>Actual Start Date</i> and <i>Actual Finish Date</i>. If these dates are changed on the selected schedule sheet, the changes are reflected on cash flow after the next refresh of the curves. • Use dates from Activity Sheet: Select this option if you want to select dates from an activity sheet. Select a specific sheet from the Select Activity Sheet window, and proceed to specify the Project Type, From Date, To Date, and Periods for Cost Distribution to plot the cash flow curve from the selected activity sheet.
Project Type	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the project as either <i>Baseline</i> or <i>Current</i> .
From Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i>, select the start date to use for plotting the cash flow curve. If the date is changed on the selected sheet, the change is reflected on the cash flow when the curve is next refreshed.
To Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i>, select the end date to use for plotting the cash flow curve. If the date is changed on the selected sheet, the change is reflected on the cash flow when the curve is next refreshed.

Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. Select a distribution profile to use as the default distribution profile for the curve. Select any of the following options: • Manual: Select this option if you want to enter values in each field manually. • Auto: Select this option if you want to specify a default distribution profile for initial display and calculations in the cash flow worksheet. If you change the distribution profile from the worksheet, the default profile is also updated to reflect the current selection. To specify a default distribution profile: 1. Select CBS Profile Distribution button. 2. In the Distribute by default profile CBS window: a. Select a predetermined distribution method (at the Company Level or Project Level) from the Set Profile drop-down list. The distribution profiles for this field are defined in the following locations: – Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. - or – Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. b. Select one or more WBS codes from the list, and select Update.
Begin calculations at end of curve	Select this option if you want to automatically start the Forecast at the end of a selected Actual (or "spends") curve for each time period.
Replace current period forecast with Actuals on cut off date	If you select this option, and the period close settings have not been specified, the Forecast curve is replaced with the Actuals (or "spends") curve at the end of the month.  Note The cumulative graph will not show the Forecast connected to Actuals (or "spends") until the system overwrites the Forecast with the Actuals.

Allow edit of current period forecast until replacement actuals	Select this option if you want to reconfigure the Forecast until the date set to replace the Forecasted values with Actuals (or "spends"). Note If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals options are selected, the system does not allow edits to the Forecast curve after the end of the month.
Distribute unassigned amounts from Spends	Your options for unassigned amounts are: • <i>Using weighted average over all remaining periods</i> • <i>Using weighted average over ___ next periods</i> You can enter the number of time periods (1 or more) not exceeding the number of periods remaining. The options above are available only if you: • Selected a default distribution profile for the curve. • Selected the Begin calculations at end of curve option. • If you use auto distribution for a Forecast Curve with Spends enabled and you want to use the same approach for rows that are manually overridden, select the Allow distribution of unassigned amount for manual override rows checkbox.
Select Baseline curve for comparison	Select a Baseline curve from the drop-down list to compare with the Forecast curve.
Variance	For Summary CBS, typically, the Variance is set to Inflow for a Baseline type curve. This value is used to calculate variances against the Outflow type curves. Your choices are: • <i>Inflow</i> • <i>Outflow</i>

Setting Up Cash Flow Properties For a Forecast Curve by CBS

When you select the **CBS** option in the **Detail Level** drop-down list (**General** pane) and in the **Curves** pane you add **Baseline** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Property	Description
Bring Forecast Data From	Specify the source of your baseline data. Select any of the following options: • General: Select this option if you want to bring data from a general CBS code. • Schedule Sheet: Select this option if you want to choose a schedule sheet and view the cost distribution information by CBS. To use data from schedule sheet, click the select icon to open and select a schedule sheet in the Select Schedule Sheet window. • P6 Summary Sheet: Select this option if you want to use cost and dates information from P6 Summary Sheet (spread), based on the P6 Data Sources. Proceed to specify the Data Type. The P6 Data Sources are listed in the Cashflow Data Sources window. (To access this window, go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select Standards & Libraries, select Cash Flow, and then select Data Sources.) The data picker lists all the P6 data sources. The P6 data sources are listed in the Cashflow Datasources window. (To access this window, go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select Standards & Libraries, select Cash Flow, and then select Data Sources.) • Activity Sheet: Select this option if you want to use cost and dates information from an activity sheet. Proceed to specify the Sheet Name, Project Type, Cost and Schedule & Distribution. – (Required) Select your cost source from the Cost drop down list. Your options are: * From Activity Sheet Column * From Cost Sheet Column – (Required) Select the schedule and distribution method from the Schedule & Distribution drop-down list.
Data Type	This field displays if you chose to Bring Baseline Data From a <i>P6 Summary Sheet</i>. Select any of the following values: • <i>At Completion:</i> Select this option if you want to draw the Baseline curve using the At Completion Cost spread. • <i>Planned:</i> Select this option if you want to draw the Baseline curve using the Planned Cost spread.
Sheet Name	If you chose to Bring Baseline Data From an <i>Activity Sheet</i> , select an activity sheet.
Project Type	If you chose to Bring Baseline Data From an <i>Activity Sheet</i> , select the project as either <i>Baseline</i> or <i>Current</i> .

Property	Description
Cost	 Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select <i>one</i> of the following options: • Manual: Select this cost option if you want to manually enter amounts for each period. This option will be available if you selected the Distribution as <i>Manual</i>. This allows you enter cost information in the Total field on the worksheet. • From Activity Sheet Column: This cost option displays if you chose to Bring Baseline Data From an <i>Activity Sheet</i>. Select a column from the Activity Sheet such as <i>At Completion Cost</i>, <i>Planned Cost</i>, or <i>Remaining Cost</i>, and so forth. • From Cost Sheet Column: This cost option displays if you chose to Bring Baseline Data From an <i>Activity Sheet</i>. and want to use a default distribution profile. This option is available if you selected the Distribution field value as <i>Auto</i>. From the drop-down list, select a column name such as <i>Approved Budget Revisions</i>, <i>Approved Commitment Changes</i>, <i>Approved Contracts</i>, and so forth.
Schedule & Distribution	If you chose to Bring Baseline Data From an <i>Activity Sheet</i> , select a column for the Schedule & Distribution method.

Property	Description
Schedule	Define the range of dates to use for plotting the cash flow data. These are the dates you specify to start the curve and end the curve. Note If you choose to take dates from the schedule sheet elements, the system uses the Master schedule sheet for the project/shell. Select <i>one</i> of the following options: • Manual: Select this option if you want to manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Select this option if you want to use a schedule sheet from the Select schedule sheet list. Proceed to enter dates in the From Date and To Date fields to plot the cash flow curve using the selected schedule sheet. If these dates are changed on the selected schedule sheet, the changes are reflected on cash flow after the next refresh of the curves. • Use dates from Activity Sheet: Select this option if you want to use an activity sheet from the Select Activity Sheet window. When you select this option, you will need to also specify the Project Type, From Date, To Date, and Periods for Cost Distribution.
From Date	If you chose the Schedule as <i>Use Dates from Schedule Sheet</i> or <i>Use Dates from Activity Sheet</i> , select the start date to use for plotting the cash flow curve.
To Date	If you chose the Schedule as <i>Use Dates from Schedule Sheet</i> or <i>Use Dates from Activity Sheet</i> , select the end date to use for plotting the cash flow curve.

Property	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. • Manual: Select this option if you want to enter values into each field manually. • Auto: Select this option if you want to specify a default distribution profile for initial display and calculations in the cash flow worksheet. If you change the distribution profile from the worksheet, the default profile is also updated to reflect the current selection. To specify a default distribution profile: 1. Select the CBS Profile Distribution button. 2. In the Distribute by default profile CBS window: a. Select a predetermined method for distribution (at the Company Level or Project Level) from the Set Profile drop-down list. The distribution profiles for this field are defined in the following locations: – Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. - or – Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. b. Select one or more WBS codes from the list, and select Update. Note The <i>Auto</i> option is selected by default, if you selected the Schedule option as <i>Use Dates from Activity</i>. Additionally, if you also selected the Periods for Cost Distribution option as <i>Honor working days</i>, <i>Auto</i> displays as a read-only field, and you can no longer select a default distribution profile.

Property	Description
Periods for Cost Distribution	This field displays only if you have selected the Schedule option as <i>Use Dates from Activity Sheet</i>, and Distribution as <i>Auto</i>. Select any of the following options to specify how to distribute the costs based on the activity schedule: • Consecutive Periods: Select this option to distribute costs based on the profile from the earliest start to the latest finish dates across activities for each CBS or Summary CBS code. This is the default option for new or existing curves if you selected Schedule as <i>Use Dates from Activity Sheet</i>. • Exclude Gap Periods: Select this option to distribute costs by honoring gaps between activities if there are multiple activities for the same CBS Code. • Honor Working Days: Select this option to distribute costs based on the working days of activities.
Variance	For CBS, typically, the Variance is set to Inflow for an Actuals (Spends) type curve. This value is used to calculate variances against the Inflow type curves. Your choices are: • <i>Inflow</i> • <i>Outflow</i>
Begin calculations at end of curve	Select this option if you want to automatically start the Forecast at the end of a selected Actual (or "spends") curve for each time period.
Replace current period forecast with Actuals on cut off date	If you select this option, and the period close settings have not been specified, the Forecast curve is replaced with the Actuals (or "spends") curve at the end of the month. Note The cumulative graph will not show the Forecast connected to Actuals (or "spends") until the system overwrites the Forecast with the Actuals.

Property	Description
Allow edit of current period forecast until replacement actuals	Select this option if you want to reconfigure the Forecast until the date set to replace the Forecasted values with Actuals (or "spends"). Note If the cutoff date is not specified, but the Replace current period forecast with Actuals on cut off date and Allow edit of current period forecast until replacement by Actuals options are selected, the system does not allow edits to the Forecast curve after the end of the month.
Distribute unassigned amounts from Spends	Your options for unassigned amounts are: - Using weighted average over all remaining periods - Using weighted average over ___ next periods You can enter the number of time periods (1 or more) not exceeding the number of periods remaining. The options above are available only if you: - Selected a default distribution profile for the curve. - Selected the Begin calculations at end of curve option. - If you use auto distribution for a Forecast Curve with Spends enabled and you want to use the same approach for rows that are manually overridden, select the Allow distribution of unassigned amount for manual override rows checkbox.
Select Baseline curve for comparison	Select a Baseline curve from the drop-down list to compare with the Forecast curve.

Adding a Forecast Curve for Cash Flow by Business Process (Commitments)

A Commitment BP (such as a Base Commit or a Change Commit) is a sub-type of a Cost type BP.

You can build one **Forecast** curve per **Business Process (Commitments)** record.

To add a Forecast curve for cash flow by Business Process (Commitments):

- Go to the shell tab, and switch to **User** mode.
This is the shell that contains the cash flow that you want.
- In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
The **Cash Flow** log is the starting place for cash flow operations. The log displays all existing cash flow curves and also provides options for creating new curves, copying curves, viewing curve properties, and assigning curve usage privileges to other users.
- Select the cash flow from the **Cash Flow** log.

4. Select the *gear menu* (⚙️) and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
5. In the **Cash Flow Properties** window **General** pane, ensure that a record under the **Business Process (Commitments)** label is selected from the **Detail Level** drop-down list. The options under the **Detail Level** drop-down list are:
 - **Project/Shell**
 - **Summary CBS**
 - **CBS**
 - **Business Process (Commitments)**
6. In the **Cash Flow Properties** window **Curves** pane, select the **Curves** drop-down list and select **Forecast** to open the **Forecast** window.

When you select the **Business Process (Commitments)** option in the **Detail Level** drop-down list and a **Base Commit** record (from **Select Base Commit Record**) in the **General** pane, and in the **Curves** pane you add **Forecast** curve (from the **Curves** drop-down list), proceed to set up the following parameters:

Parameter	Description
Granularity	The options that you can select from are: • Single distribution of sum of Base Commit and all changes • By individual record (Base Commit and all changes separately) • By line items within each individual record The cash flow Granularity option that you select determines the: • Distribution Method options that are available. • Level of record detail available in the cash flow curve. You can roll up Base Commit and Change Commit and see individual records separately, or you can drill to individual line items in a Business Process (Commitments) record.
Distribution Method	The options that you can select from are: • Manual entry of values for each cash flow period • Manual entry and Auto distribution of Unassigned - for New records • Manual dates and manual profile selection • Business process dates and default profile selection
Select change orders you want to include	Add or remove business process from the list.
Variance	Your choices are: • Inflow • Outflow For Business Process (Commitments), typically, the Variance is set to Outflow for a Forecast type curve. The value will be used to calculate variances against the Inflow type curves.

Forecast Curve Behavior Test Cases

The following table provides cases, conditions, and times regarding various Forecast curve tests:

Cases	Condition	Time
Forecast Curve	NA	NA
Set in the past	Forecast with Actuals (no Actuals data)	Start Date
Set in the past	Forecast with Actuals (no Actuals data)	End Date
Set in the past	Forecast with Actuals (with Actuals data)	Start Date
Set in the past	Forecast with Actuals (with Actuals data)	End Date
Set in the future	Forecast with Actuals (no Actuals data)	Start Date
Set in the future	Forecast with Actuals (no Actuals data)	End Date
Set in the future	Forecast with Actuals (with Actuals data)	Start Date
Set in the future	Forecast with Actuals (with Actuals data)	End Date

Portfolio Budget Curve

The **Portfolio Manager** lets you pull the **Baseline**, or **Forecast**, data from more than one project/shell into the following **Portfolio Budget** curves:

- **Approved Budget**
- **Original Budget**
- **Shared Budget**

For an explanation of these options see [Portfolio Manager Budget Curves](#).

The following topics explain how to add a **Portfolio Budget** curve for cash flow by:

- **Project/Shell**
- **Summary CBS or CBS**
- **Commitment or Business Process (Commitments)**

Note

The procedures that follow:

- Assume that you have created your data sources.
- Describe how to add a curve type to an *existing* cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Adding Portfolio Budget Curve for Cash Flow by Project or Shell

To add Portfolio Budget (**Approved Budget**) curve for cash flow by **Project/Shell**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Project/Shell**.
4. In the **Curves** pane, select **Approved Budget**.
The **Approved Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Original Budget**) curve for cash flow by **Project/Shell**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Project/Shell**.
4. In the **Curves** pane, select **Original Budget**.
The **Original Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Shared Budget**) curve for cash flow by **Project/Shell**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).

3. In the **General** pane, select **Project/Shell**.
4. In the **Curves** pane, select **Shared Budget**.
The **Shared Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

Adding Portfolio Budget Curve for Cash Flow by Summary CBS or CBS

Summary CBS

To add Portfolio Budget (**Approved Budget**) curve for cash flow by **Summary CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Summary CBS**.
4. In the **Curves** pane, select **Approved Budget**.
The **Approved Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Original Budget**) curve for cash flow by **Summary CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Summary CBS**.

4. In the **Curves** pane, select **Original Budget**.
The **Original Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Shared Budget**) curve for cash flow by **Summary CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Summary CBS**.
4. In the **Curves** pane, select **Shared Budget**.
The **Shared Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

CBS

To add Portfolio Budget (**Approved Budget**) curve for cash flow by **CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **CBS**.
4. In the **Curves** pane, select **Approved Budget**.
The **Approved Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Original Budget**) curve for cash flow by **CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **CBS**.
4. In the **Curves** pane, select **Original Budget**.
The **Original Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Shared Budget**) curve for cash flow by **CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **CBS**.
4. In the **Curves** pane, select **Shared Budget**.
The **Shared Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

Adding Portfolio Budget Curve for Cash Flow by Business Process (Commitments)

To add Portfolio Budget (**Approved Budget**) curve for cash flow by **Business Process (Commitments)**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Business Process (Commitments)**.
4. In the **Curves** pane, select **Approved Budget**.
The **Approved Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Original Budget**) curve for cash flow by **Business Process (Commitments)**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Business Process (Commitments)**.
4. In the **Curves** pane, select **Original Budget**.
The **Original Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

To add Portfolio Budget (**Shared Budget**) curve for cash flow by **Business Process (Commitments)**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane, select **Business Process (Commitments)**.
4. In the **Curves** pane, select **Shared Budget**.
The **Shared Budget** window (**Curve Type: Portfolio Budget**) opens.
5. Proceed to set up the following parameters:

Parameter	Description
Cost	Select an option (from the Distribute amount) from field list. The choices are: • Original • Shared • Approved
Currency	Select to open the Select Currency window and select the currency for the Portfolio Budget type curve. See Portfolio Budget Curve and Currency for more information.
Variance	Select Inflow or Outflow or leave the field empty.

Portfolio Budget Curve and Currency

When you define a Portfolio Budget curve within any curve family type (**Project/Shell**, **Summary CBS**, **CBS**, and **Business Process (Commitments)**), you have the option to select the currency (**Currency** field under **Cost**) of the Portfolio Budget data source, from the **Portfolio Manager**.

The **Currency** field is a *required field* (default value: **Project Currency**), if you have **Portfolio Budget** curves. You can change the value of the **Currency** field to another value by opening the curve configuration window.

Note

When you run a report, the value of **Currency**, in the report, is also **Project Currency** unless you have selected another value.

The **Currency** field lists all **Active** and future currencies from the **Exchange Rates** (to access this: go to the **Company Workspace** tab, and switch **Admin mode**; in the left Navigator, select **Standards & Libraries**, and then select **Exchange Rates**). The **Show Currency List** window lists the available currencies that you can select.

Derived Curve

The cash flow Data Sources of type = **Derived** is available to create cash flow curves within any family (**Project/Shell**, **Summary CBS**, **CBS**, and **Business Process (Commitments)**).

When creating a cash flow curve within any cash flow family:

- Data Sources of type = **Derived** must be enabled only when there is at least one non-Derived (that is, Baseline, Spends, Forecast, Portfolio Budget, or Custom) type of curve in the family.
- If no non-Derived type of curve exists in the family, all Data Sources of type = **Derived** are grayed out.

When the **Derived** type data sources are enabled, and the user selects such a data source, a window is displayed that enables the user to enter the details for creating the curve.

The following table explains the fields in the **Derived** type cash flow curve configuration window:

Option	Description	Behavior
Name	Captures the name of the cash flow curve as defined in cash flow data sources in Admin mode of the Company Workspace tab.	Same behavior as in existing cash flow curves-
Type	Captures the type of cash flow curve viz., Baseline, Custom, Forecast, Spends, Portfolio Budget, Derived.	Same behavior as in existing cash flow curves-
Base Currency	Captures the base currency for user to see and make exchange rate decisions.	Behavior: Read-Only Displays the Base Currency as a read-only value

Option	Description	Behavior
Source Curve	To select an existing curve which should be used as the basis of the 'Derived' curve.	Behavior - Drop-down List all the non-Derived existing curves within the family in which the 'Derived' curve is being configured. Values are: <Curve Name> (<Type>), example: Shared (Portfolio Budget). Note Derived curve cannot be a source curve to create another Derived curve. Required? (Not Null) - Required option. The user must select a value for this drop-down to complete the curve configuration.
Derived Curve Currency	To select the currency that must be used to convert the 'Source Curve'	Behavior - Currency Selector User has the ability to select any currency from the Exchange Rates located in Standards & Libraries of the Company Workspace tab (active and future) Required? (Not Null) - Required option. The user must select a value for this selector to complete the curve configuration.
Exchange Rate	To define how the exchange rates must be used so that those can be applied to the source curve data. That is, should the exchange rate be picked up from as defined in the Exchange Rates located in Standards & Libraries of the Company Workspace tab, or should the rate be 'Pegged' to a value as chosen by user.	Behavior: Radio button, two options: Float, Peg Default Value = Float When user selects the option 'Float', another drop-down option appears: 'Use Rate as' (see below) .

Option	Description	Behavior
Use Rate as	To choose how to make use of exchange rate data located in Standards & Libraries of the Company Workspace tab, especially if more than one rate is found for a given period (month / year)	Behavior -Radio button Values: • At the beginning of the period • At the end of the period • A weighted average for the period Required? (Not Null) - Required option if 'Exchange rate' = 'Float'. If the user selects OK on the window without selecting this option, the following message appears: Invalid data entered in the following field(s): Input Required: Use rate as.

If you choose the option 'Exchange Rate' = 'Peg', the system provides another block titled 'Peg Rate as':

- If Base Currency = Project Currency, then Peg Rate options should be available for conversion Base Currency -> Derived Curve Currency
- If Base Currency $\neq$ (not equal) Project Currency and Project Properties list the conversion Base Currency -> Project Currency as 'Peg' option, then also behavior should be same as above, that is, list options only for Base Currency -> Derived Curve Currency
- If Base Currency $\neq$ (not equal) Project Currency but Project Properties list the conversion Base Currency -> Project Currency as 'Float' option, then peg rate options are available for both:
 - Base Currency -> Derived Curve currency
 - Base currency -> Project Currency

The following explains the Derived' curve 'Peg' Rate options:

Option: Peg Rate options

Description: To define the value by which the exchange rate must be pegged. The user will have to enter a value manually or point to an attribute on Shell Attribute Form / single record BPs within the shell, or choose if they want to use the pegged rate from shell properties. In the latter case, the system will look into the value of the data element each time when rendering the curve.

Behavior: Behavior - Radio button

Base Currency -> Derived Curve Currency: There should be helpful text informing user that conversion is for 1.0 Base Currency -> Derived Currency (text: 1.0 Base Currency =) This is followed by three options:

- Constant
- Dynamic
- Use Project Rate

Default Radio Option: Constant

If you select 'Constant', the system opens a field (DD = Decimal Amount). The decimal places only appear when user types a digit after decimal point; otherwise, an integer value will appear. The field lets the user enter an Integer or Decimal value.

Default Radio Option: Dynamic

If you select 'Dynamic', the system enables two drop-downs which will capture the Data Source for the multiplication factor:

Drop-down 1:

The Shell Attribute Form of the current shell within which curve is being created.

The Shell Attribute Forms of all parent/grandparent shells of current shell in which curve is being created (that is, attribute forms of all shells in hierarchy of current shell, up to the root).

All single record BPs within the shell in which curve is being created.

The above should be prefixed by identifiers 'Shell Attribute Form / <Shell name>', or 'Single Record BPs / <BP name>'. For example:

Shell Attribute Form / All Properties

Shell Attribute Form / Buildings

Shell Attribute Form / Sites

Single Record BPs / Project Information

Single Record BPs / Important Contacts

...

Drop-down 2:

Lists all linked and custom Data Elements from the selected source form whose Data Definition = Integer / Decimal Amount / Currency Amount. (No standard elements)

The user can change the location / hierarchy of a shell. So the above two drop-down values must be refreshed each time the curve is refreshed.

Note

If the user chooses the options 'Constant' / 'Dynamic', the user must define a value (Constant integer/decimal or Dynamic data source). If not selected, the user will see a standard prompt after selecting 'OK':

'Invalid data entered in the following field(s): Input Required: 'Constant' or 'Data Source'

The user can choose to use the third option: 'Use Project Rate' Selecting this option does not open up any additional field, but the system picks up the exchange rate as defined in project properties (described in Peg rate as 'Use Project Rate' section below). The user receives an applicable error message in either of following scenarios:

- The user selects a 'Derived Curve Currency' which does not exist in Project Properties (Message: Selected currency is not defined in project.), or
- The user selects a 'Derived Curve Currency' which is listed in Project Properties, but its conversion rate is set to 'Float' (Message: Selected currency does not have pegged rate within project.).

Error should be presented when user selects 'OK' on curve configuration window.

Base Currency -> Project Currency

The radio options are for user to select how to use the rate from the Standards & Libraries module of the Company Workspace tab (label: Use Rate as).

The radio options are visible only if Base Currency $\neq$ Project Currency AND rate Base Currency -> Project Currency is set as 'Float' in project properties.

Options same as when user chooses to 'Float' rate:

You can choose to use the rate as:

- At the beginning of the Period
- At the end of the period
- A weighted average for the period

Default value: At the beginning of the period.

 Note

This block 'Peg Rate options' is displayed only if 'Exchange Rate' is selected as 'Peg'.

The following provides some scenarios.

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as = 'Use Project Rate', and the curve configuration is successful (that is, 'Derived Curve Currency' is listed in Project Rate with a pegged conversion rate).

The user then goes to Project Properties and changes the exchange rate for Base Currency -> Derived Curve Currency as 'Float', and reopens the cash flow.

Because the curve has not been refreshed, the cash flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

If user refreshes the curve, the cash flow worksheet shows all values as zero as the curve configuration is no longer valid.

If user opens the 'Derived' curve configuration window, the message, "Selected currency does not have pegged rate within project" appears.

In case Base currency $\neq$ Project Currency;

User selects the Peg Rate option for Base Currency -> Derived Curve Currency as either of the three possible options,

Base Currency -> Project Currency is set as 'Peg' in project properties. So there are no additional options to choose from, the curve configuration is successful ;

Then user goes to Project Properties and changes the exchange rate for Base Currency -> Project Currency as 'Float';

Then reopens the cash flow;

Because the curve has not been refreshed, the cash flow worksheet continues to show data as per previous value.

If user opens the 'Derived' curve configuration window, the options for Base Currency -> Project currency appears, and the default value is selected as 'At the beginning of the period'.

If user refreshes the curve, the cash flow worksheet values are refreshed as per the options for Base Currency -> Project Currency.

When user selects a currency to derive the curve, the system uses the data from source curve per period and convert it into the selected currency as per the float or peg exchange rate option as selected by user within curve definition:

If user chooses the 'Float' option, the system uses the exchange rates as defined in the Exchange Rates section of the Standards & Libraries module located in the Company Workspace tab.

If the user chooses 'Peg' option, exchange rate values should be as per user selection in the block 'Peg Rate as'.

See following sections on how the derived curve should calculate its data per period.

Note

The user can select the currency to be same as source curve currency. In that case, the derived curve would be same as source curve, exchange rates would not apply.

Exchange Rate = Float (Rate at beginning of the period)

The user can select the Derived curve definition such that the exchange rate for currency conversion from source to destination is picked up from the Standards & Libraries module in the Company Workspace tab in such a way that the Rate from the beginning of the period is used.

In other words, when doing the currency conversion, of all the available rates for a given period, the system selects the Rate closest to the beginning of the period.

Note

If more than one rate is defined for the same day, the system picks the latest rate on that day. If no exchange rate is available for a past date, the system uses zero.

Exchange Rate = Float (Rate at the end of the period)

The user can select the Derived curve definition such that if multiple exchange rates are available for a given period (month / year), the system uses the rate 'At the end of the period'.

In other words, when doing the currency conversion, of all the available rates for a given period, the system selects the Rate closest to the end of the period.

Exchange Rate = Float (A weighted average for the period)

If the user chooses to apply the exchange rate as a weighted of all values for a given period (Exchange Rate = 'Use a weighted average for the period'), the value will be based on the number of days in a given month. That is, the total of all "Rate * No. of days it is applicable during the period" divided by "Total number of days within the period~" (~Month / Year).

When the Exchange Rate = 'Float', Oracle recommends that the user set a 'Refresh' frequency (for more information, see [Refreshing Data in Cash Flow Log](#)), for the Derived curves, to cover the following scenarios:

Scenario 1

Future Exchange Rates from the Standards & Libraries module of the Company Workspace tab can get changed with time. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older exchange rate values (unless manually opened & refreshed)

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

Exchange Rate = Peg

This option means that the user does not want to use exchange rate as captured within the Exchange Rates section of the Standards & Libraries module of the Company Workspace tab, but the user prefers to define the rate as one of the following:

- Constant
- Dynamic
- Use Project Rate

If Constant:

To do the currency conversion (1.0 Base Currency = <constant value> Derived Curve currency), the system uses the constant value entered by the user.

The source curve defaults to be in Project currency. If Base Currency ≠ Project Currency, the system picks the exchange rate for Base Currency -> Project Currency from Project Properties and makes appropriate conversion to calculate the Derived curve in Derived Currency as selected by user.

If Base Currency -> Project Currency in Project properties is set as 'Float', the system uses the option as selected by user for 'Base Currency -> Project currency' conversion.

The system picks rates from the Exchange Rates section of the Standards & Libraries module of the Company Workspace tab by using one of the following options selected by user:

- At the beginning of the period
- At the end of the period
- A weighted average for the period

If Dynamic:

When rendering the curve, the system accesses the Data Element (DE) selected by the user and uses the value as the exchange rate to do conversion (1.0 Base Currency = <Selected DE value> Derived Curve currency).

If the DE value is blank/null (in source Shell Attribute Form/single record BP), the system applies zero as the exchange rate.

If Base Currency ≠ Project Currency, the system does one of the following:

- Picks the exchange rate for Base Currency -> Project Currency from Project Properties
- Calculates the Derived curve (in Derived Currency) as selected by user.

If Use Project Rate:

The exchange rate is pegged as specified in the shell properties.

If Base Currency ≠ Project Currency, the system does one of the following:

- Picks exchange rate for Base Currency -> Project Currency from Project Properties
- Calculates the Derived curve (in Derived Currency) as selected by user.

Note

For Commitment type curves, user can flip the view between Project and Transaction currencies. The system calculates for Source Curve data -> Derived Curve data by taking the source data in Project currency.

When the Exchange Rate = 'Peg', Oracle recommends that the user set a 'Refresh' frequency, for the Derived curves, to cover the following scenarios:

Scenario 1

Peg rates as defined in project properties might undergo a change. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older pegged exchange rate values (unless manually opened & refreshed).

Scenario 2

The 'Source Curve' might undergo a change in its configuration / values. If 'Derived' cash flow curve is not set to automatic refresh, it will continue to hold values as per older source curve data (unless manually opened & refreshed).

For all types of Cash flow families, the 'Derived' curve values are always displayed in its currency, as selected by user in curve configuration window.

For Commitment type cash flow families, the user can choose to view the family curves in 'Project' / 'Transaction' currency.

In either case, the 'Derived' curve renders in the currency, as selected by user for the 'Derived' curve configuration window, regardless of whether the rate is 'Float' or 'Pegged'.

The following explains special scenarios related to the exchange rate.

Special Scenario 1

The user selects a 'Source Curve' while configuring the 'Derived' curve;

Completes 'Derived' curve configuration and selects 'OK';

Removes the 'Source Curve' itself from the cash flow family definition.

In this scenario:

When the user opens the curve worksheet, the derived curve will render all values as zero, regardless of whether the cash flow family has been refreshed or not.

When the user opens the curve configuration window, the 'Source Curve' drop-down continues to show original value. When the user selects 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 2

The user selects the 'Exchange Rate' as 'Peg' > Peg as 'Dynamic', and then chooses a data source DE from grandparent shell attributes.

The user completes 'Derived' curve configuration and selects 'OK'.

The user changes the location of shell in which the curve was defined.

In this scenario:

If the new parent is the same type of shell (or another shell having the data Source DE on its attribute form), this is not an error scenario. The curve renders by using the Rate value from new location.

However, if the new parent does not have the Data Source DE on its attribute form, the curve configuration is invalid:

When the user opens the curve worksheet, the Derived curve renders all values as zero.

When the user opens the curve configuration window, the Data Source continues to show original value. When the user selects 'OK', the message, "Invalid curve configuration" is displayed.

Special Scenario 3

The user selects a 'Source Curve' while configuring the 'Derived' curve,

The user completes 'Derived' curve configuration and selects 'OK'.

The user removes the 'Source Curve' Datasource from company Workspace Cash Flow Datasources definitions.

In this scenario:

When the user opens the curve worksheet, the Derived curve (as well as the source curve) renders all values as zero, regardless of whether the cash flow family has been refreshed or not.

When the user opens the Derived curve configuration window, the 'Source Curve' drop-down shows original value, and when the user selects **OK**, the message, "Invalid curve configuration" is displayed.

Monthly Actuals (Spends) for Derived Forecast Curve

If the checkbox is selected in the configuration and then in the Portfolio Manager, the user will be able to see the monthly breakdown for actuals and the values seen would be read-only for months prior to the current month for the current year. The behavior and validation, which exist in support for monthly actuals for Forecast curve, is available for Derived forecast curve as well.

Actuals (Spends) for Derived Actuals (Spends) Curve

If Derived Actuals (Spends) curve is defined, the system uses the Derived Actuals (Spends) curve data, and the derived forecast data will be pushed from cash flow to PPM. The Derived Actuals (Spends) data links to the source actuals.

In case of multiple Derived curves for the same project with inconsistent settings (either different currency or settings such as float versus peg), a cumulative data value is displayed in the project currency, which is used by PPM, and the red triangle is displayed against that cell to depict the inconsistency.

When you hover over, this warning message is displayed: {ppmname} Portfolio Manager received data from multiple actuals curves that have inconsistent settings.

The correct value will be seen after the settings are corrected.

Custom Curve

You can create a **Custom** curve when you want to create and compare curves in a Cash Flow worksheet, but you do not want to associate them with data sources of the other curve types (Baseline, Forecast, Actuals (or "spends"), or Portfolio).

The following topics explain how to add a **Custom** curve for cash flow by:

- **Project/Shell**
- **Summary CBS or CBS**

Custom curves are not available for cash flow by **Business Process (Commitments)**.

The **Custom** curve setup is essentially the same as setting up **Baseline** curves.

Note

The following procedures describe how to add a curve type to an existing cash flow (using the **Detail Level** column of the **Cash Flow** log for the project/shell) that does not have a curve.

Adding Custom Curve for Cash Flow by Project or Shell

To add a **Custom** curve for cash flow by **Project/Shell**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () and select the **Properties** option.
3. In the **General** pane of the **Cash Flow Properties** window or the **Cash Flow Properties** worksheet, select *Project/Shell*.
4. In the **Curves** pane select *Custom* from the **Curves** drop-down list.
5. In the **Custom** window, complete the fields using the information in the table below.
6. When finished, select **Save & Close** to save the custom curve.

Property	Description
Cost	 Note You can choose the cost column when creating a curve in a project/shell but not in templates. Select <i>one</i> of the following options: • Manual: Select this amount to manually enter amounts for each period. This option will be available if you have chosen Manual in the Distribution drop-down list. You can enter cost information in the Total field on the worksheet. • Distribute amount from Cost Sheet Column: Select this option to use the default distribution profile. This option will be available if you have chosen Auto by default profile in the Distribution drop-down list. Examples of column: <i>Approved Budget Revisions, Approved Commitment Changes, Approved Contracts</i>, and so forth.
Schedule	Lets you define the range of dates (what dates to start the curve and end the curve) to use to plot the cash flow data.  Note If you choose to take dates from the schedule sheet elements, the system uses the Master schedule sheet for the project/shell. Select <i>one</i> of the following options for each date: • Manual: Lets you manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Lets you select a schedule sheet (from the Select schedule sheet drop-down). You can populate the From and To dates according to the schedules available (Example: Actual Start Date and Actual Finish Date) pertinent to the schedule sheet that you have selected for the Select schedule sheet drop-down. If these dates are changed on the selected schedule sheet, the changes will be reflected on cash flow after the next refresh of the curves. • Use dates from Activity Sheet: Lets you select an activity sheet (from the Select Activity Sheet window). After you select using dates from an activity sheet, you must determine the values for the Project Type, From Date, and To Date fields.

Property	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. Select <i>one</i> of the following options for how to distribute the data automatically between cash flow time periods: • Manual: Select this option to enter values in each field manually. • Company Level: Select a pre-determined method for distribution. Your options are: Linear, S curve, Front Loaded, Back Loaded. • Project Level: Select from a list of available project levels.
Variance	Select Inflow or Outflow or leave the field empty.

Adding Custom Curve for Cash Flow by Summary CBS and CBS

To add a **Custom** curve for cash flow by both **Summary CBS** and **CBS**:

1. Select the cash flow from the **Cash Flow** log.
2. Select the *gear menu* () , and select the **Properties** option to open the **Cash Flow Properties** window (or the **Cash Flow Properties** worksheet).
3. In the **General** pane of the **Cash Flow Properties** window, select *Summary CBS*, or *CBS* from the **Detail Level** drop-down list.
4. In the **Curves** pane of the **Cash Flow Properties** window, select *Custom*.
5. In the **Custom** window, set up the following parameters, for *Summary CBS*, or *CBS*:

Property	Description
Cost	Select your cost source as <i>one</i> of the following options: • Manual: Select this option if you want to manually enter amounts for each period. You can enter cost information in the Total field on the worksheet. This option is available if you select <i>Manual</i> in the Distribution drop-down list. • Distribute amount from Cost Sheet Column: Select this option if you want to use the default distribution profile. This option is available if you select <i>Auto</i> in the Distribution drop-down list. For example, columns such as <i>Approved Budget Revisions</i>, <i>Approved Commitment Changes</i>, <i>Approved Contracts</i>.

Property	Description
Schedule	Define the range of dates to use for plotting the cash flow data. These are the dates you specify to start the curve and end the curve.  Note If you choose to take dates from the schedule sheet elements, the system uses the Master schedule sheet for the project/shell. Select <i>one</i> of the following options: • Manual: Select this option if you want to manually enter the date in the cash flow worksheet. • Use dates from Schedule Sheet: Select this option if you want to select dates from a schedule sheet. Select a specific sheet from the Select schedule sheet list, and proceed to enter dates in the From Date and To Date fields to plot the cash flow curve from the selected schedule sheet. For example, <i>Actual Start Date</i> and <i>Actual Finish Date</i>. If these dates are changed on the selected schedule sheet, the changes will be reflected on cash flow when the curves are next refreshed. • Use dates from Activity Sheet: Select this option if you want to select dates from an activity sheet. Select a sheet from the Select Activity Sheet window, and proceed to specify the Project Type, From Date, To Date, and Periods for Cost Distribution to plot the cash flow curve from the selected activity sheet.
Project Type	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the project as either <i>Baseline</i> or <i>Current</i> .
From Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the start date to use for plotting the cash flow curve.
To Date	If you chose the Schedule as <i>Use Dates from Activity Sheet</i> , select the end date to use for plotting the cash flow curve.

Property	Description
Distribution	Distribution profiles are used to distribute data automatically in the cash flow worksheet. This option lets you select a distribution profile to use as the default distribution profile for the curve. • Manual: Select this option if you want to enter values in each field manually. • Auto: Select this option if you want to specify a default distribution profile for initial display and calculations in the cash flow worksheet. If you change the distribution profile from the worksheet, the default profile is also updated to reflect the current selection. To specify a default distribution profile: 1. Select the CBS Profile Distribution button. 2. In the Distribute by default profile CBS window: a. Select a predetermined distribution method (at the Company Level or Project Level) from the Set Profile drop-down list. The distribution profiles for this field are defined in the following locations: – Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select Standards & Libraries, select Cash Flow, and then select Distribution Profiles. - or – Go to the shell tab, and switch to User mode. In the left Navigator, select Cost Manager, and then select Cash Flow. From the toolbar, select Actions, and then select Manage Distribution Profiles. b. Select one or more WBS codes from the list, and select Update.
Periods for Cost Distribution	This field displays only if you have selected the Schedule option as <i>Use Dates from Activity Sheet</i>, and Distribution as <i>Auto</i>. Select any of the following options to specify how to distribute the costs based on the activity schedule: • Consecutive Periods: Select this option to distribute costs based on the profile from the earliest start to the latest finish dates across activities for each CBS or Summary CBS code. This is the default option for new or existing curves if you selected Schedule as <i>Use Dates from Activity Sheet</i>. • Exclude Gap Periods: Select this option to distribute costs by honoring gaps between activities if there are multiple activities for the same CBS Code. • Honor Working Days: Select this option to distribute costs based on the working days of activities.
Variance	Select Inflow or Outflow or leave the field empty.

Creating Project or Shell Level Cash Flow Curves

There are multiple ways to create a cash flow curve or worksheet.

- You can create a cash flow curve *manually*.
- You can create a cash flow curve *from a template*.
- You can also create a cash flow curve by *copying* an existing cash flow curve.
- You can also create a **Summary Cash Flow** curve. See [Creating a Summary Cash Flow Curve](#).

Cash flow curves require a data source which your administrator can create in the **Standards & Libraries** module of the Company Workspace tab. For details, refer to the *Unifier Modules Setup Administration Guide*.

Note

- You must have permission to access and configure cash flows.
- To prevent incorrect reporting in the cash flow and associated curves, do not create a project without a cost sheet. Currently, you can create a Project/Shell Detail level cash flow in which the Actuals curve properties receives data from the Cost Sheet Columns through a shell template even though the cost sheet is not defined in the destination shell. You must manually update the Actuals curve properties after the cost sheet is created.

To change the order of the Cash Flow curves, on the cash flow worksheet graph:

1. Go to the **Cash Flow** log, and select the cash flow.
2. Open the *gear menu* () for the selected cash flow and select **Properties** to open the **Cash Flow Properties** window.
3. On the right pane, hover over **Drag to reorder** () for the curve that you want to move, right-click the icon and hold.
4. Move the curve to where you want it to be displayed on the cash flow worksheet graph and release the hold.

Cash Flow Properties [Cancel] [Save & Close]

General [More Options](#)

Name *
Cash Flow by CBS

Description

Detail Level *
CBS

Filter CBS Codes
Type CBS Code or ...

Rollup cashflow data to company/program?

Curves Add Curve

Actuals Spends Outflow
Cost: Cost Sheet - Approved Spends

Baseline Baseline Inflow
Cost: Cost Sheet - Approved Contracts Schedule: Manual

Forecast Forecast Outflow
Cost: Manual Schedule: Manual

Note

Changing the curves order in the **Cash Flow Properties** window will also change the curve order in the **All Curves** tab of the cash flow worksheet.

The following sections describe the basics of how to create a project/shell level cash flow curve worksheet.

Creating a Project or Shell Cash Flow Curve Manually

To create a project/shell cash flow curve manually:

Note

The red asterisk next to a field box indicates that the field is a required field. You will not be able to save your changes without entering a value in that field.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the toolbar, select **Create** drop-down list and select **Manual** to open the **New Cash Flow Worksheet** window, as shown below.
4. Enter values in the fields, as explained in the following sections.
5. To save your changes and create a new cash flow, select **Save & Close**. To discard your changes, or close the window, select **Cancel**.

New Cash Flow Worksheet

General More Options

Name *

Description

Detail Level * Required
Project / Shell

☐ Filter CBS Codes ☐ Filter Summary CBS Codes

Rollup cashflow data to company/program?
☒ Yes ☐ No

Time Scale
Period Type
Standard Planning Period

By
Month

Format
M YYYY

Curves Add Curve

Cancel Save & Close

Entering Values in General Pane

Enter values in the following fields, as described below.

Name: Enter a unique name for the curve in this field.

Description: (Optional) Enter a brief description in this field.

Detail Level: The selected option determines the level of data the cash flow curves will display. You can select one of the following options:

- **Project/Shell:** To track your cash flow for the entire project/shell. For example, Baseline and Actuals curves might chart the budget and cash outlay across the entire project.
- **Summary CBS:** To track cash flow by summary CBS codes. To be able to select this option, the Cost Sheet used in the project/shell must be a tree structure. If you select this option, the system sets the **Summary CBS Level** to **1** by default. You can select another level, based on what is available in the Cost Sheet.
- **CBS:** To track the cash flow within a project/shell at the CBS Code level. This allows you to track the cash flow across the project for specific CBS Codes, or for all CBS Codes. Oracle recommends that you define unique leaf level cost codes, in cost sheets, and use those unique leaf level cost codes in their cash flows.

Business Process (Commitments): To track the cash flow associated with a particular BP record and its line items. This includes, for example, a base contract and optionally their referenced Change Commits. This option lets you select from:

- **Business Process:** Select the drop-down menu, and choose a business process. Listed are the Project/Shell level business processes of type "Base Commit." When creating a template, choose the one that is likely to be used in the projects/shells the template will be used in. When creating the curve in a Project/Shell from the template, you may need to verify that the business process chosen here is active in the project/shell, or pick another from the list.
- **Reference Elements:** The worksheet will display the reference elements. By default, the Record Number will display as the number. You can select the drop-down menu and choose an element to display as the Name (Record Number, Status or Title).
- **Base Commit Record:** This is selectable in a project/shell, but not in a template. Choose the commitment record from the list of available records in the project/shell. Each commitment record can be selected only once.
You can set up the automatic creation of a cash flow curve when a Base Commit record is created and completed or reaches a particular step. This is done in the BP Setup for the business process.

Filter CBS Codes: Specify **Filter CBS Codes** (for hierarchical CBS structures only) that are included in the cash flow data. If no codes are specified, the cash flow curves will reflect all the CBS codes present on the project cost sheet.

Filter Summary CBS Codes: Specify **Filter Summary CBS Codes** (for hierarchical CBS structures only) that are included in the cash flow data. If no codes are specified, the cash flow curves will reflect all the CBS codes present on the project cost sheet.

Manage Filters: If you selected **Project/Shell**, **Summary CBS**, or **CBS**, you can refine the list of codes included. To do so, select **Manage Filters**. (The names of the subsequent pages and options changes based on whether you are filtering CBS codes or Summary CBS codes.) The **Filter [Summary] CBS Code** page lists all codes currently included in the filter. To add additional codes, select **Add [Summary] CBS Code**. On the **Cost Code Picker** page, select the applicable codes, and then select **Add & Add More** if you want to save your changes and add additional codes or select **Add & Close** to save your changes and return to the previous page. To save the selected cost codes, select **Done**.

Rollup cashflow data to company?

Yes: The curve *will roll up* to company cash flow the next time the curves are refreshed.

No: The curve *will not roll up* to company cash flow the next time the curves are refreshed.

Time Scale: Your **Period Type** options are:

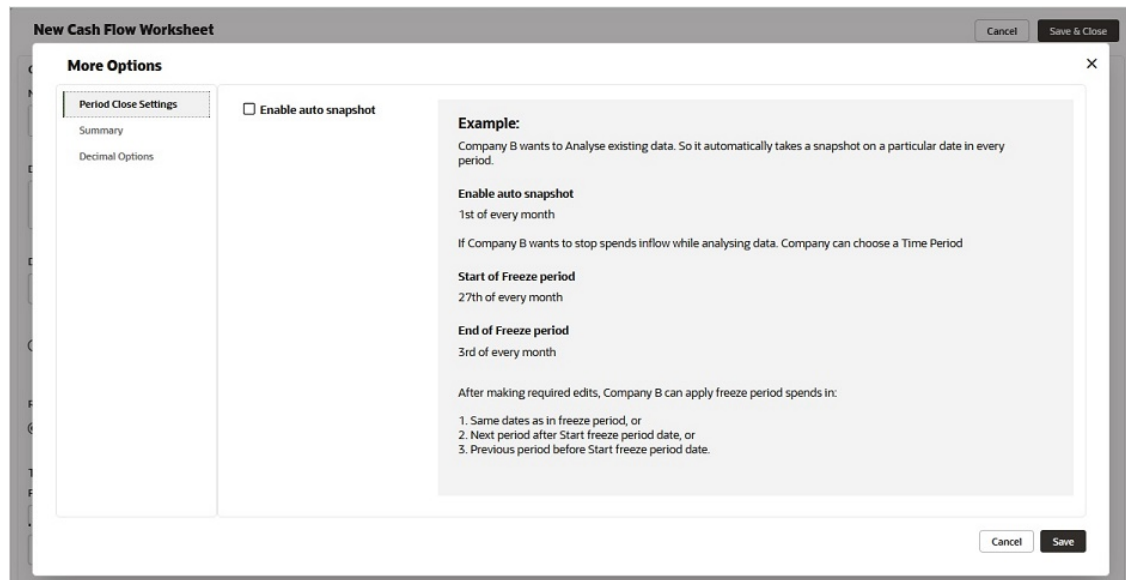
- **Standard Planning Period**
- **Financial Periods**

Proceed to set the time (monthly or yearly) and format.

To save your changes, select **Save & Close**. To discard your changes, or close the **Cash Flow Properties** window, select **Cancel**.

Entering Values in General Pane (More Options)

When you select **More Options** in the **General** pane, the **More Options** window opens, as shown.



The **More Options** window contains the following tabs on the left pane, and each tab provides additional options for the cash flow. Enter values in the fields of the following tabs, as described below.

Tab	Description
Period Close Settings tab	This tab lets you set the option: Enable auto snapshot If you select this option, then: If you selected Month for Time Scale: You can choose a specific date each month to automatically take a snapshot, or specify a particular day (such as the first Monday of the month). If you selected Year for Time Scale: You can specify the exact date to take the snapshot each year (or a particular day such as the first Monday of January). After an auto-snapshot is taken, the curve will be refreshed immediately. Actuals (or "spends") will resume after the auto-snapshot is complete. Examples of using Enable auto snapshot on, Cutoff spends, and Resume Spends Company A wants to take an auto snapshot of its cash flow data every time period. Company A would choose a particular date (such as the 3rd of the month for Month, or January 3 for Year). The system would take the snapshot and refresh the cash flow curve. They do not select the Cut off spends option. Company B regularly reviews and revises forecast projections during fixed days every time period. Because it does not want new Spends records to hit the Cash Flow Worksheet during this period, they choose the Cut off spends option. This option requires that the Enable auto snapshot is selected first. The company sets this option so that an auto snapshot is taken of their changes just before spends are resumed. Snapshots can then be used for comparison of previous forecasts with the current month. Any spends records that came in during the forecast period are not lost; the Resume Spends option determines whether those spends records will be included in the previous month's cash flow, or pushed to the next time period. Cutoff spends This option is applicable for Actuals (or "spends") type curves. Selecting this option will temporarily stop spends business processes (for example, Invoices) from hitting the Cash Flow Worksheet during analysis periods. The Enable auto snapshot option must be selected first. Actuals (or "spends") will resume after the auto-snapshot is complete. If no value is specified, the last date of the current month is presumed. The system marks the time of the Cutoff spends date at the beginning of the day. For example, on June 30, the data can become locked at the beginning of the day and not at the end of the day, therefore, preventing the user from making any last minute changes before the start of the next month. Apply Spends to The selections under this period close settings option let you apply spends to an effective date or before/after a Cutoff spends date.

Tab	Description
	By default, Cutoff spends will resume immediately after an auto-snapshot is taken. If there is a gap between the Cutoff spends date and the Enable auto snapshot date, any spends that came during that period are not lost. For example, if a Cutoff spends date is October 26 and the Enable auto snapshot on date is November 2, (and the Time Scale is monthly) that defines the freeze period. Any spends that come in on October 27, 28, 29, 30, 31, and November 1 will not hit the cash flow sheet during the freeze period. After the Enable auto snapshot on date is reached, spends will be included back in October for spends (Oct 27-31) or November for spends (Nov 1-2), and the effective date will be retained. The same month/year as the effective date The text of the options under Apply Spends to change based on the selection that you made for the Time Scale (By: Month or By: Year). If this option is chosen, spends data is included back in the current period after the freeze period is lifted. The final output is similar to the case where no period close settings are applied because the effective date is retained. Spends for Oct 26-31 will be included in October and Nov 1-2 spends will be included for November. For example, if the cutoff date is the 26th of October and the snapshot date is the 2nd of November, the freeze period is Oct 26 - Nov 2. Any spends that come in on Oct 27, 28, 29, 30, 31 and Nov 1 and 2 will not show on the cash flow sheet during the freeze period. After the auto snapshot date is reached, these spends will be included back in either Oct for spends (Oct 27-31) or Nov for spends (Nov 1-2) and the effective date will be retained. The next month/year if after the cutoff date After the freeze period is lifted, spends data from the cutoff date to the end of the month will be included in the next month/year. Spends for Oct 26-31 will be included in November and Nov 1-2 spends will be included for November. The previous month/year if on or before the cutoff date After the freeze period is lifted, spends data from the start of the month up to the cutoff date will be included in the previous month/year. Spends for Oct 26-31 will be included in September and Nov 1-2 spends will be included for November. During the Cutoff spends period, even if automatic refresh of the curve occurs as set in the Schedule tab, spends data will not hit the cash flow sheet until spends are resumed again.
Summary tab	This tab lets you automatically add the selected curve to a selected summary curve. This tab contains a list of available summary curves to choose from.

Tab	Description
Decimal Options tab	This tab provides two options: • Decimal Options: To specify the number of decimal places supported for amounts throughout the cash flow, select this option. • Use Currency Decimal Precision: To ensure that the cash flow preserves the number of decimals used within areas such as Base Currency, Project Currency, and Transaction Currency, select this option.

When finished, select **Save**. To discard changes, or to close window, select **Cancel**.

Entering Values in Curves Pane

In the **Curves** pane, the **Curves** drop-down list lets you add the following curves, based on available data sources:

- **Actuals**
- **Approved Budget**
- **Baseline**
- **Custom**
- **Forecast**
- **Original Budget**
- **Shared Budget**

To save your changes, select **Save & Close**. To discard your changes, or close the window, select **Cancel**.

The following provides additional details about cash flow (Detail Curves) levels in a project/shell.

For Cash Flow by Project/Shell Detail Level

Curves pane

Distribute amount from a Cost Sheet column field and From/To Dates. This is where you add the curves based on available data sources.

Baseline, Forecast, Portfolio Budget, Derived, and Custom curves

If you want to automatically distribute a Cost amount from a cost column, the column must be selected in the project/shell. You can choose a curve for a project/shell template if you are creating a project/shell from the template and are copying both the curve and the cost sheet.

Actuals (or Spends) curve

Because you must select a cost sheet column associated with Spends data in the project/shell, a Spends curve can only be created in a project/shell (or similar to the above, in a project/shell template). You will not be able to add an Actuals (Spends) curve in a Company level template.

Forecast curve

If you define Forecast to start at the end of the Actuals (Spends) curve, the Forecast options use data from the Spends curve. Forecast options can only be set if a Spends curve is present.

If auto distribution is enabled and the **Allow distribution of unassigned amount for manual override rows** option is also enabled, the system uses the same approach for rows that are manually overridden. Additionally, when the From date is pushed using CSV import in manually overridden rows, the To date is not pushed because system always considers both the From and To dates.

Portfolio Budget curve

The Portfolio Budget curve shows current project-row plan data from a Portfolio Sheet. When plan data changes, it becomes visible in the cash flow graph as a parallel curve so project managers can clearly see the variance between their projections and portfolio planner-initiated changes.

From Date and To Date

These fields can be set up to pull start and finish dates from the master schedule sheet in the project/shell. These can be selected in a project/shell template. At runtime, be sure the master schedule sheet is set up and has dates in the date element fields chosen for the curves.

In manual mode, the system pegs cost data distribution to the From Date. If there are date changes, the system shifts the curve on the timeline based on From Date modifications. Each time period (month or year) on the curve retains the value of the original distribution if the duration remains the same. If date changes make the cash flow curve duration longer or shorter, the system will not re-balance or redistribute cost data to match the modified curve length (the data will change).

For Cash Flow by CBS Detail Level

Curves pane

Use dates from Schedule Sheet field - Effective for the baseline curve only, you can view cost distribution information by CBS code in a schedule sheet.

The properties window for each curve type displays these settings:

Distribute amount from cost sheet column field and From/To Date fields. This is similar to the "For Cash Flow by Project/Shell Detail Level" above.

Auto by default profile by CBS field.

For Baseline, Forecast, and Custom curves, you cannot select "Auto by default profile by CBS" in a Company level template, but you can in the Project/Shell, because this setting relies on the CBS codes used in the project/shell. You can choose it for a Project/Shell template if you are creating a project/shell from the template and are copying both the curve and the cost sheet.

You will not be able to double-click the CBS Summary to view the CBS details.

For Cash Flow by Summary CBS Detail Level

Curves pane

Distribute amount from cost sheet column field and From/To Date fields. This is similar to the "For Cash Flow by CBS Detail Level" above.

Auto by default profile by Summary CBS field. Similar to CBS detail level, for Baseline, Forecast, and Custom curves, you cannot select "Auto by default profile by Summary CBS" in a company level template, but you can in the project/shell and a project/shell template if you are creating a project/shell from the template and are copying both the curve and the cost sheet.

For Cash Flow by Commitment Detail Level

General pane

Business Process and Base Commit Record fields.

For a Commitment detail level, you must select the Base Commit type business process to use. Ensure that you select business processes that are being used in the project/shell.

In the Base Commit Record field, you must select the record at runtime. This is not selectable in the template, because records do not exist in templates. The list displays all records you have permission to view. If a detail curve exists for that record, you will not be able to choose the same record again.

Curves tab

Include Change Commits and Spends business processes.

If you chose these options, ensure that you have selected Change Commits that are being used in the project/shell and are associated with the selected Base Commit.

If the cash flow is attached to a Portfolio Manager scenario, the planner-modified baseline curve appears adjacent to the original baseline in the cash flow worksheet. This lets the project manager easily spot the difference between the initial projection and the planned suggestion.

Creating a Project or Shell Cash Flow Curve by Auto-distribution

As stated, the Cash Flow module enables you to visualize the distribution of costs planned, spent, and forecasted against time periods.

Example

If you spent \$1000, \$1500, \$800, and \$1000 in four months, you can manually enter each amount in the corresponding time period, and the data can be displayed in a graphical format.

The manual distribution occurs when you set the distribution as manual and manually enter the data in all monthly periods; however, you can switch between a manual and a distribution profile.

You can access the **Manual** option through the:

- **Profile** drop-down
- **Profile** drop-down in Bulk Edit

Note

The Profile column in the worksheet will remain editable, regardless of the distribution type.

At run time, the **Profile** column drop-down will have distribution profile options, and you can choose a distribution profile and amounts that must be distributed in each period. The remainder will remain in the unassigned column.

When you select the **Manual** option, the system will retain the amounts of the previous selections, and they are available for override.

The system uses the latest saved **Profile** for cash flow, while refreshing the data.

Distribution profiles are used to distribute data automatically in the cash flow worksheet. Since entering amounts for each period is sometimes a tedious task, you can use a combination of manual and auto distributions to enter amounts. So, to make the entry method simpler, you can select a distribution profile which would automatically distribute the amounts in each period.

Example

You have spent \$1000 in 4 months, equally. Instead of entering \$250 in each month I can select a linear distribution curve to distribute automatically.

The system allows you to switch to:

- Auto-distribution in the worksheet and manually override the amounts even if the curve configuration is set as manual.
- Manual and override auto-distributed amounts, when the curve configuration is set as auto-distribution.

If auto distribution is enabled and the **Allow distribution of unassigned amount for manual override rows** option is also enabled, the system uses the same approach for rows that are manually overridden. Additionally, when the From date is pushed using CSV import in manually overridden rows, the To date is not pushed because system always considers both the From and To dates.

To create a project/shell cash flow curve by auto-distribution:

1. In your shell, go to the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the log.
2. Select **Create**, and select **Manual** to open the **New Cash Flow Worksheet** window.
3. Enter the required information in the left pane, and on the right pane select the curve type (for example, **Baseline**) to open the curve type window.
4. In the curve type window, enter the values for the following fields:
 - **Cost**
You can select **Manual** (to manually enter cost data), or you can select a cost under the **Distribute amount from Cost Sheet Column** (to have a set cost data).
 - **Schedule**
You can select **Manual** (to manually enter the schedule data), or you can select dates from the **Schedule Sheet** or dates from the **Activity Sheet**.
 - **Distribution**
You can select **Manual** (to manually enter the distribution data), or you can select a distribution method from the **Company Level**, or the **Project Level**. For example, you can select **S curve** from the Company Level block.
 - **Variance**
You can select:
 - **Inflow** (the amount assigned to the project as the budget) or
 - **Outflow** (the amount that has been spent and forecasted to be spent).
5. When you finish, select **Add**.
The **New Cash Flow Worksheet** window opens. On the **New Cash Flow Worksheet** window, the **Curves** block on the right pane, the distribution method is set as manual (**Distribution: Manual**).
6. Select **Save & Close** to go back to the **Cash Flow** log.
7. In the **Cash Flow** log, open the cash flow that you have created.

8. Select the split screen  icon, or slider, to see the cash flow details pane. Proceed to use **Expand**  or **Dock**  (upper-right corner) to maximize or to adjust the cash flow detail pane (**All Curves**) screen for better visibility.

The cash flow details (the right pane) is presented through a table in the right pane shows the data for the curves. Each row of the table corresponds to one of the curves on the graph and displays the curve data in columns. The data in these columns show the distribution of cost, and the total of cost is the value in the **Total** field.

- If you are doing an *auto distribution* by using a distribution profile, the values in these columns will be calculated based on the distribution percentages.
- If you are doing a *manual distribution*, you will enter the values into each time period (distributing the amount in the **Total** column).

9. In the cash flow details pane, select the curve that you have selected curve type (for example, **Baseline**) to open the curve type window. The following scenarios will explain how to switch manual distribution to auto distribution and conversely.

Scenario 1 (Manual to Auto):

The cash flow worksheet with default distribution profile is set to empty or manual distribution. The user is trying to override the manually distributed amounts with the auto-distributed profile selection and save the worksheet.

In this scenario, the **Profile** column will be editable so that user can quickly select the profile for distribution, but the selection will not be saved.

The user does not need to provide the distribution for each month in the request to update the distribution values. The user can use the profile value to distribute the values automatically.

Scenario 2 (Auto to Manual)

The cash flow worksheet with default distribution profile is set as S Curve. The user is trying to override the auto-distributed values and save the worksheet.

In this scenario, although the distribution profile is set as auto amounts in each period, the fields will be editable.

The user can choose to manually override the auto-distributed values, and the Profile will automatically change to **Manual**.

The user can also choose a distribution profile and override the distributed amount manually.

Editing data (Manual to Auto)

When you switch from manual to a Profile the system updates the amounts in each period accordingly. When you override the auto distributed value, the Profile will change to empty, automatically.

You must save your changes to the **Manual** values by selecting **Save** on the worksheet.

If you select Cancel, the worksheet will reset to the previously saved state.

Profile Options Menu in auto-distributed curve

The **Profile** drop-down field displays **Manual**, as an option. The profile will be manual when no distribution profile is selected in the auto-distribution profile, in the **Properties** window. You can switch between manual and distribution regardless of the profile selection, in the **Properties** window.

Bulk Edit

The **Profile** drop-down field in the bulk edit dialog is editable when the distribution is set to both auto-distribution and manual distribution. You can bulk update the **Profile** for multiple rows from **Profile** to manual or conversely using the **Bulk Edit** option within the worksheet.

Refresh

When you refresh the cash flow log, the system will check against each CBS to identify whether the distribution is manual, or the distribution uses a distribution profile and then updates the amounts in each period accordingly.

Note

You can have a combination of manual and auto-distributed values in the same curve.

CSV import

Export in Manual Distribution

You can override the manual distributed costs by using a profile from the **Profile** column, in the worksheet.

In the Exported CSV template, the **Profile** column will be empty, but you can provide a valid profile name to quickly allow the distribution of that row by using profile through a CSV input request.

User can import the setup or distribution data by using the **Import** option. The system will combine the **Import** options as one single import option.

You can update the values within the **Profile** column in the worksheet.

If you select a profile as input

In the input CSV template, if you select profile, the system will override the manual distributed costs with the profile, after a successful import.

Export in Auto-Distribution

The **Export** option in the worksheet, when the curve has auto-distribution selected should show all the worksheet column data and Profile column should show 'Manual' option if selected in UI. User can update the distributed costs when profile is selected as 'Manual' through CSV import.

When auto-distribution is selected for a curve, the **Export** option shows data for all of the worksheet, and the **Profile** column shows **Manual**.

You can update the distributed costs when the profile is selected as **Manual**, through CSV import.

REST Services

You can update the cash flow curve or the distribution by using RESTful web services. You can:

- Update profile to manual in auto-distributed curve, or
- Update manual to profile in manual distributed curve.

Creating a Project or Shell Cash Flow Curve From a Template

There are two types of cash flow templates:

- **Company level templates:** Created in the Company Workspace (**Admin** mode).
- **Project or shell level templates:** Created in a project/shell.

When creating curves from templates, only the properties of the curve are copied; data and permissions are not copied.

In addition, curve properties such as cost sheet column selections will not be copied, even if they have been selected in a project/shell template (because you can select a template from any project/shell template).

You can pre-set curve options, except, for example, the business process records and cost sheet columns, which are set at run time.

To create a project/shell cash flow curve from a template:

Note

The red asterisk next to a field box indicates that the field is a required field. You will not be able to save your changes without entering a value in that field.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the toolbar, select **Create** drop-down list and select **From Template** to open the **Cashflow Templates** window.
4. Select the template that you want from the list and click **Select** to open the **New Cash Flow Worksheet** window.
Note that the following required fields have values per the template that you have selected:
 - **Name**
 - **Detail Level**
5. Enter values in the fields, or edit the properties where necessary.
6. To save your changes and create a new cash flow, select **Save & Close**. To discard your changes, or close the window, select **Cancel**.

When you create a new cash flow curve from a template, the curves configured in a template are automatically included and within each curve the following details are captured:

- **Distribution:** The Distribution field is populated either with a distribution profile or manually.
- **Cost:** The Cost field is populated manually or with a particular cost sheet column.
- **Schedule:** The Schedule field is populated manually or with obtaining schedules from activity sheets or schedule sheets.
- **Variance:** The Variance field remains not selected.

Within the **Forecast** curve, all additional values are pulled into their respective fields.

Creating a Project or Shell Cash Flow Curve by Copying

You can copy the data from one curve to another, but the destination curve must be a manual curve which means that the Distribution, From, and To dates must be manually entered data.

You cannot copy data to a curve that pulls data from a business process record, cost sheet or schedule sheet. You can, however, copy data from an auto-distribution curve.

- For example, Spends curves pull actual spends transaction data from a cost sheet column (usually, cost sheet columns that show spends business process transactions). If you want to work with this data manually, you can create a custom curve in the Properties, be sure that all data entry is manual, and then copy the spends curve data to the manual custom curve.
- For another example, you can make a copy of the original Baseline curve, make adjustments, and save the revised version.

When you copy data, any existing data in the destination curve will be overwritten with the data from the source curve.

To create a project/shell cash flow curve by copying:

1. Open the **Cash Flow** log.
2. Select a curve from the log, and select **Copy** from the *gear menu* (⚙️) to open the **New Cash Flow Worksheet** window.
3. Enter a unique **Name** for the new curve. The **Name** field in this window will be prefixed with "Copy of."
4. Make changes as needed, and select **Save & Close** to complete creating the cash flow curve and add it to the log.

Auto-creating a Cash Flow Curve from a Base Commit Record

If cash flow is set up in the project/shell you are working in and you have permissions to both the cash flow and to the commit BP record, you can create and view a Commitment detail level cash flow worksheet directly from the business process record. There can only be one cash flow curve per record; that is, if you create the commitment curve through the record, the base commit cannot be referenced in a new cash flow curve.

The following explains how the auto creation of a Commitment cash flow curve takes place.

- Auto-creation is enabled in the Business Process Workflow Setup for the project/shell. It is only available for base commit business processes and requires a Commitment detail level template.
- For a workflow business process, the administrator can specify the step on which to auto-create a commitment cash flow curve. The curve is created upon reaching that step when a user accepts the task.
- For a non-workflow business process, the administrator specifies the business process status that will trigger curve auto-creation from the commitment cash flow template specified in the business process setup.
- Given the proper permissions, you will see the **Cash Flow** option in the **More Actions** drop-down list on the business process record regardless of whether the auto-create feature has been enabled in the business process setup. This means that you have the option to create a commitment cash flow curve manually if the curve has not yet been auto-created.
- Creating the curve manually (by completing the curve properties, or by copying a project/shell level template) means the system will ignore an auto-create trigger when the record reaches the specified step or status.

A few things to keep in mind:

- If a detail curve exists for the record, selecting the **Cash Flow** option will open the cash flow worksheet, which is view-only when opened from here.
- If there are changes to the base commit record (such as additional or modified line item amounts), these changes will be reflected on the commitment cash flow curve the next time it is refreshed.
- If the base commit record is terminated after the cash flow curve has been created, the curve will not be deleted. However, the next time the curve is refreshed, any data will be removed.
- Because your organization might have multiple cash flow jobs and automatic snapshots scheduled to run for a multitude of projects, your administrator can use the Cash Flow Jobs functional node to manage the jobs and auto-snapshots and their impact on system performance. For more information, see the *Unifier General Administration Guide*.

To auto-create a Commitment detail level curve from a Base Commit BP record:

1. Open the base commit business process record.
If cash flow is set up and you have permissions set, a **Cash Flow** option is available in the **More Actions** drop-down list.
2. In the upper-right corner, select **More Actions**, and select **Cash Flow**.
 - If a cash flow **Commitment detail level** curve exists, the cash flow worksheet opens automatically.
 - If at least one curve summary exists in your project, you can add this commitment curve to a summary curve listed on the Properties Summary tab.
 - You can choose an **Incremental** or **Cumulative** view by selecting the applicable option to the right of **View**.
 - If the curve does not exist yet, the **Cash Flow by Commitment** window opens. Choose one of the following options:
 - **Manual**. To create a curve manually, select this option, and click **Select**.
 - **From Template**. To select a template, select this option, select a template to copy, and then click **Select**.
3. Select **OK** on the Cash Flow by Commit window. The Properties window opens.
4. Complete the Properties window, and select **OK**. The cash flow worksheet will open to display the data. The curve will be saved in the Cash Flow log.

To open a cash flow worksheet from a Base Commit record:

1. Open the base commit business process record.
If cash flow is set up and you have permissions set, a **Cash Flow** option is available in the **More Actions** drop-down list.
2. In the upper-right corner, select **More Actions**, and select **Cash Flow**.
 - If a cash flow Commitment detail level curve exists, a view-only cash flow worksheet opens.
 - If the curve does not exist, the **Cash Flow by Commitment** window opens. Use this window to create a curve manually or by copying a template.

Company Level Cash Flow and Roll up Curve

Similar to the **Cash Flow Detail Curves** in projects/shells, you can conduct the following operations on a Company level (**User** mode) Roll up Cashflow curve:

Note

If you are working in a project/shell, the **Cash Flow** log displays cash flow **Detail Curves**. If you are working in a company (**User** mode), the log displays the company level Roll up Cashflow curves.

- Create a **Roll up Cashflow**
- Set up the status of one or more **Roll up Cashflows** to **Active** or **Inactive**
- Set up the permissions for one or more **Roll up Cashflows**
- Delete one or more **Roll up Cashflows**
- Print **Roll up Cashflows**
- Find **Roll up Cashflows** within the **Cash Flow** log
- Select one **Roll up Cashflow** and preview the associated cash flow curve

However, you cannot work with the data presented in the Company level Roll up Cashflow curve. This is because a Company level Roll up Cashflow curve data is generated at the project/shell level and then the data is rolled up to the Company level.

The procedures involved in working with a Company level Roll up Cashflow curve are similar to the *Detail Curves* in a project/shell.

The following topics explain the components of a Company level Roll up Cashflow curve.

Company Level Cash Flow Log

To access the Company level **Cash Flow** log, follow these instructions:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the *Company level Cash Flow* log.
If you cannot see the **Cash Flow** sub-node, ensure that your company administrator has granted you the necessary permissions to the sub-node.

The *Company level Cash Flow* log is divided into the following sections, as shown in the following screen capture:

- Title
- Log
- Properties tabs



Company Level Cash Flow Log Toolbar Options

The Company level **Cash Flow** log has the following toolbar options:

- **Create**
 - **Roll up Cashflow**
Select this option to open the **New Roll up Cashflow** window.

Enter values in all the fields under the **General**, **Status**, and **Data Sources**. To save your changes, select **Save & Close**. To discard your changes, or close the window, select **Cancel**.
- **Actions**
The **Actions** drop-down list lets you set the status and permissions for one or more Company level Roll up Cashflow curves. It also lets you delete one or more Company level Roll up Cashflow curves. The options within the **Actions** drop-down list are:
 - **Status**
 - * **Active**
 - * **Inactive**
 - **Permissions**
Lets you open the **Permissions** window and add permissions for the detail curve or details curves that you have selected. In the **Add** field box you can type in the name of the user, users/group, or group. You can also select to view (**View** drop-down list) **Users**, **Users/Groups**, or **Groups**. Use **Find on Page** to search and find users listed within the **Permissions** window. Use the arrow to go to the next page. When finished, select **Save**. To discard changes, or to close window, select **Cancel**.

Click **Select** to open the **User and Group Picker** window. This window lets you select users, groups, or both from the **View** drop-down list (**Users/Groups**, **Groups**, **Users**) and see pertinent details about your selection, as explained below:
 - * **Users/Groups**: Displays the **Name** and **Company** information for the **Users/Groups**, in two columns.
 - * **Groups**: Displays the **Name** information for the **Groups**, in one column.

- * **Users/Groups:** Displays the following information for the **Users: Name - User Type - Company - Employee ID - Title - Department - Manager Name**

When finished, select **Done**. To discard changes, or to close window, select **Cancel**.

- **Delete**

Lets you delete one or more Company level Roll up Cashflow curves.

- **Print**

Select one or more cash flow curves from the log, and select **Print** from the toolbar to access the following print options:

- **Print**

To open a window that lets you select a method to print the selected curves.

- **Export to CSV**

To open a dialog box that lets you save a Microsoft Excel Comma Separated Values (CSV) File version of the selected curves, so you can export the file to a desired destination.

- **Export to Excel**

To open a dialog box that lets you save a Microsoft Excel Worksheet version of the selected curves, so you can export the file to a desired destination.

 Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Find on Page**

Use this option to find specific items in the Cash Flow log. When you select this option, the system inserts a row that lets you enter filter parameters.

Company Level Cash Flow Log

The *Company level* **Cash Flow** log lists all the Roll up Cashflow curves.

When you select a Company level Roll up Cashflow curve, in the Company level **Cash Flow** log, the *gear menu* () becomes active. Use the *gear menu* to:

- **Open**

Open the selected Company level Roll up Cashflow curve worksheet. See [Company Level Cash Flow and Roll up Curve](#) for details.

- **Copy**

Copy the information of the selected Company level Roll up Cashflow curve to create a Company level Roll up Cashflow curve. When you select this option, the **New Roll up Cashflow** window opens, which lets you change the copied information to create a Company level Roll up Cashflow curve. The **Name** field will contain the name of the

copied, or selected, Company level Roll up Cashflow curve with the word "Copy" added at the beginning of the name.

- **Delete**
Delete one or more Company level Roll up Cashflow curves.
- **Status**
 - **Active**
 - **Inactive**
- **Permissions**
Open the **Permissions** window and add permissions for the Company level Roll up Cashflow curve, or the Company level Roll up Cashflow curves, that you have selected.

In the **Add** field box you can type in the name of the user, users/group, or group.

You can select to view (**View** drop-down list) **Users**, **Users/Groups**, or **Groups**.

Use **Find on Page**  to search and find users listed within the **Permissions** window.

Use the arrow (lower-right side) to go to the next page. When finished, select **Save**. To discard changes, or to close window, select **Cancel**.

Click **Select** to open the **User and Group Picker** window. This window lets you select users, groups, or both from the **View** drop-down list (**Users/Groups**, **Groups**, **Users**) and see pertinent details about your selection, as explained below:

- **Users/Groups**: Displays the **Name** and **Company** information for the **Users/Groups**, in two columns.
- **Groups**: Displays the **Name** information for the **Groups**, in one column.
- **Users/Groups**: Displays the following information for the **Users**: **Name - User Type - Company - Employee ID - Title - Department - Manager Name**

When finished, select **Done**. To discard changes, or to close window, select **Cancel**.

- **Properties**
Open the **Roll up Cashflow Properties** window. In this window, you can modify the general, status, data sources, and time scale information of your selected Company level Roll up Cashflow curve.

When you select more than one Company level Roll up Cashflow curve in the Company level **Cash Flow** log, the *gear menu* () becomes active and lets you just delete the selected Company level Roll up Cashflow curve.

Company Level Cash Flow Log Columns

The Company level **Cash Flow** log has the following columns:

- **Name**
Displays the name of the Roll up Cashflow curve.
- **Description**
Displays the description of the Roll up Cashflow curve, if available.
- **Time Scale**
Displays of the time scale (by month or year, for the period type) for the Roll up Cashflow curve.
- **Status**
Displays whether the by month or year, for the Roll up Cashflow curve is active or inactive.

- **Last Saved**
Displays the date the Roll up Cashflow curve was last saved.

Company Level Cash Flow Log Properties Tabs

The following lists the Company level **Cash Flow** log properties tab:

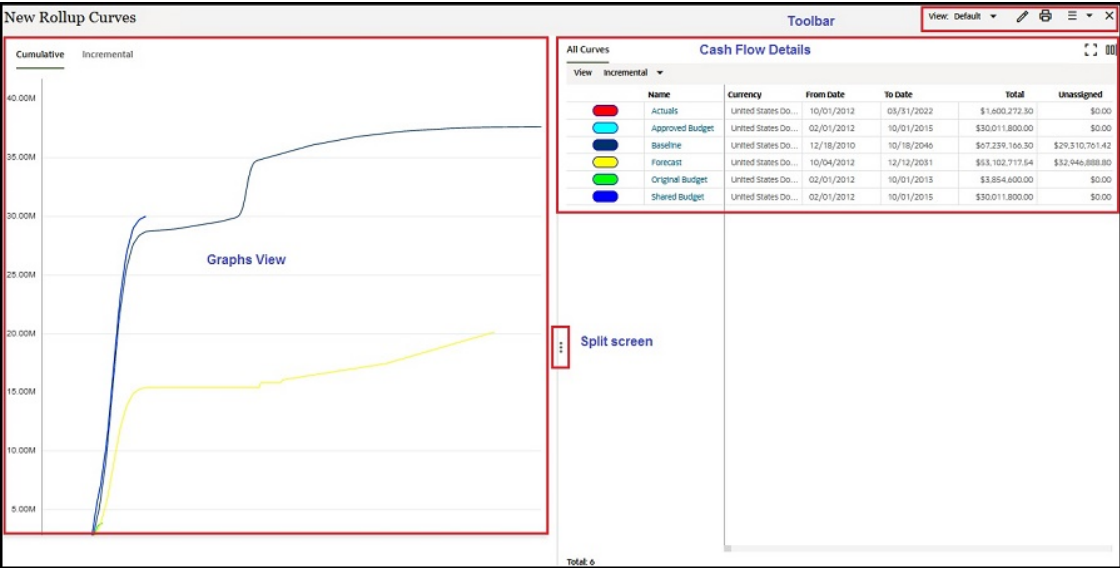
- **Preview**
When a Company level Roll up Cashflow curve is selected, this tab shows a preview of the graph.
- **Permissions**
When a Company level Roll up Cashflow curve is selected, this tab shows, this tab shows the types of permissions that have been assigned to each user or group.

Company Level Roll Up Cashflow Curve Worksheet

To open a Company level Roll up Cashflow curve worksheet for an existing curve:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the *Company level Cash Flow* log.
If you cannot see the **Cash Flow** sub-node, ensure that your company administrator has granted you the necessary permissions to the sub-node.
3. Select a Company level Roll up Cashflow curve from the Company level **Cash Flow** log, and double-click the curve to open the Company level Roll up Cashflow curve worksheet window.

The Company level Roll up Cashflow curve worksheet window is divided into two panes. You can open the right pane by way of moving the split screen (slider) to display the cash flow details pane, as shown in the following typical screen capture.



Company Level Roll up Cashflow curve worksheet Window Toolbar

The toolbar options are:

- **View**

Use this option to **Create New View** for the worksheet, or to **Manage Views** that have been created.

Similar to the errors and warnings in BPs, if there are any alerts or errors on the cash flow curve (errors due to mismatch in time scale of project cash flows), an error icon is displayed the "View" controls that shows the number of errors. When you select the error icon, a window opens that lists the error messages corresponding to the project cash flow curves.

- **Edit View**

When you select **Edit View**, the **Edit View** window opens. In this window you can select the curves that you want to view on the log (for **Curves**, **Inflow**, and **Outflow**). In this window you can also add columns and group your columns when you select the **Group By** tab.

- **Print**

Select one or more cash flow curves from the log, and select **Print** to access the following print options:

- **Print**
To open a window that lets you select a method to print the selected curves.
- **Export to CSV**
To open a dialog box that lets you save a Microsoft Excel Comma Separated Values (CSV) File version of the selected curves, so you can export the file to a desired destination.
- **Export to Excel**
To open a dialog box that lets you save a Microsoft Excel Worksheet version of the selected curves, so you can export the file to a desired destination.

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Snapshot**

For important details about this option, see [Working with Company Level Snapshots](#).

Company Level Roll up Cashflow curve worksheet Window Graphs View

The graphs view pane provides graphs presentation for the following Roll up Cashflow curves:

- **Cumulative** curve
A Cumulative curve displays the net of all cash flows over a period of time.
- **Incremental** curve
An incremental curve displays the cash flow for a certain period.

Company Level Roll up Cashflow curve worksheet Window Cash Flow Details

Note

Use **Expand**  or **Dock**  (upper-right corner) to maximize or to adjust the cash flow details pane (**All Curves**) screen for better visibility.

The **View** option in the cash flow details pane lets you switch between the **Incremental** and **Cumulative** data values. The data sources that have been selected in the properties, are listed within each view selection. If you double-click and open each of the data sources, you can see pertinent details for that data source, as described below.

Actuals (Spends)

If you select the **Incremental** view and select **Actuals (Spends)** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**
To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Approved Budget

If you select the **Incremental** view and select **Approved Budget** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**
To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Baseline

If you select the **Incremental** view and select **Baseline** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**

To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.

- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Forecast

If you select the **Incremental** view and select **Forecast** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**
To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Original Budget

If you select the **Incremental** view and select **Original Budget** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**
To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Shared Budget

If you select the **Incremental** view and select **Shared Budget** (under the **Name** column), the actual spent amounts, per time period, are displayed. These values are not editable and cannot be distributed. You can use the toolbar options to:

- **Export**
To export one or more curves to a CSV file, which is automatically named after the cash flow worksheet.
- **Refresh**
To update the data, or amounts, on the page.
- **Find on Page**
To find a particular amount.

If you select the **Cumulative** view, the net of all cash flows, over a period of time is displayed, with the same toolbar options as for the **Incremental** view.

Working with Company Level Snapshots

A snapshot displays the graph, curves, and curve data on the worksheet. Snapshots are not editable. You can take a snapshot and view it in project, transaction currencies, and reports. You can manually save a snapshot of a cash flow curve at any time.

Note

Because your organization might have multiple cash flow jobs and automatic snapshots scheduled to run for a multitude of projects, your administrator can use the Cash Flow Jobs functional node to manage the jobs and auto-snapshots and their impact on system performance. For more information, see the *Unifier General Administration Guide*.

When you open a company level Roll up Cashflow curve (from the **Cash Flow** log), you can select **Snapshot**  and access the following options:

Option	Description
Create Snapshot	Use this option to create, or to take a snapshot of a cash flow curve, at any time. See "To take a snapshot at any time," below.
Snapshot Log	Use this option to view, open, or delete the snapshots that have been created or taken of a cash flow curve. The Title, Creator, and Created on data is also provided on this window.
Properties	Use this option to open the Roll up Cashflow Properties window. You can see the following cash flow properties information: • General (Name, Description, Decimal Places, Status, and Data Sources) • Time Scale (Period Type, By, and Format) • Status (Active and Inactive) • Data Sources (Available Sources and Selected Sources)

To take a snapshot at any time:

1. Open your cash flow curve.
2. From the toolbar, select **Snapshot** , and select **Create Snapshot**. The **Create Snapshot** window opens. The window also displays the time stamp of snapshot for reference.
3. Enter a title for your snapshot, in the **Title** field, and select **Create**.

To view a created snapshot:

1. Open the cash flow curve.
2. Select **Snapshot** , and select **Snapshot Log**.

3. In the **Snapshot Log**, choose a snapshot to view and double-click the snapshot to open the cash flow curve or worksheet snapshot.
4. Maximize the window to be able to identify the following elements:
 - **Top block**
Containing cost-related at-glance numeric data as well as detailed information, when you select **Show More**.
 - **Bottom block**
Containing curves corresponding to the cost periods and variances.
 - **Screen split** 
Select the icon and drag to expand the window. You can use the **Expand** and **Dock** icons (upper-right corner) to adjust this screen. This screen lets you access detail information for actuals, baseline, forecast, and most other interactive elements, but the snapshot data is not editable.

To search for a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. In the **Snapshot Log**, select **Find on Page** to open the find box for each column (**Title**, **Creator**, and **Created On**).
4. Proceed to enter a value in one or all the boxes to search and find your desired snapshot.
5. To restore the entire list, select **Find on Page**.

To delete a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. In the **Snapshot Log**, select a snapshot, select **Delete**, and follow the prompts.

To print a snapshot:

1. Open the cash flow worksheet.
2. From the toolbar, select **Snapshot** , and select **Snapshot Log**.
3. From the toolbar, select **Print** , and select one of the following options:
 - **Print:** To open a window that lets you select a method to print the selected curves.
 - **Export to CSV:** To open a dialog box that lets you save a Microsoft Excel Comma Separated Values (CSV) File version of the selected curves, so you can export the file to a desired destination.
 - **Export to Excel:** To open a dialog box that lets you save a Microsoft Excel Worksheet version of the selected curves, so you can export the file to a desired destination.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Creating Company Level Roll Up Cashflow Curve

Creating and managing a Company level Roll up Cashflow curve is similar to creating detail curves in a project/shell.

Note

The administrator must grant runtime permission to users so the users can have access to each curve.

Data rolls up to the Company level Roll up Cashflow curve based on the data sources used to add the individual Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves that make up the project/shell detail curves.

Note

Only project/shell level cash flow curves with Roll-up Status equal to **Active** will roll up to the Company level Roll up Cashflow curve.

To create a Company level Roll up Cashflow curve, in the Company Workspace (**User** mode):

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the *Company level Cash Flow* log.
If you cannot see the **Cash Flow** sub-node, ensure that your company administrator has granted you the necessary permissions to the sub-node.
You will have all the permissions for the Roll up Cashflow curves that you have created.
3. From the toolbar, select **Create**, and select **Roll up Cashflow** to open the **New Roll up Cashflow** window, as shown below.
4. Proceed to complete the fields in the **New Roll up Cashflow** window.
The **Data Sources** block lists the available sources for you to select.
5. When finished, select **Save & Close**. to add the new Roll up Curve to the **Cash Flow** log.

Company Level Cash Flow and Roll Up Cashflow Properties

You can access the Company level **Roll up Cashflow Properties** window in two ways:

1. Company level **Cash Flow** log
 - a. Select a Roll up Cashflow curve.
 - b. Select the *gear menu* (⚙️), and select **Properties**.
2. Company level Roll up Cashflow curve worksheet
 - a. Select a Roll up Cashflow curve.
 - b. Double-click to open the selected Roll up Cashflow curve worksheet.
 - c. Select **Snapshot**, and select **Properties** to open the **Roll up Cashflow Properties** window as shown below.
 - d. Proceed to complete the fields in the **Roll up Cashflow Properties** window. The **Data Sources** block lists the available sources for you to select.
 - e. When finished, select **Save & Close** to add the new Company level Roll up Cashflow curve to the **Cash Flow** log.

Cash Flow Curves in Cost Controls

With Cost Controls, you receive a cost control cash flow that shows Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves using an S-curve distribution profile.

After your project is in operation, your manager sheets are set up, and the Business Processes are in use, the system will retrieve the curve data from the Project Cost Sheet to render the Cost Controls cash flow curves.

For Baseline and Forecast curves, you can enter dates manually or set the Schedule Manager to control the start and finish dates automatically.

You can create as many Baseline, Forecast, Actual (or Spends), Portfolio Budget, Derived, and Custom curves as you need in a Cash Flow Worksheet.

Within a Project/Shell, each curve can be created in one of the following detail levels:

- Cash Flow Curve by Project/Shell
- Cash Flow Curve by CBS
- Cash Flow Curve by Summary CBS
- Cash Flow Curve by Commitment (one per base contract)

Note

For a Company level Roll up Cashflow, see [Company Level Cash Flow and Roll up Curve](#).

The cash flow worksheet allows you to:

- View or enter data

- View and compare the curves that you added

There are several ways to create a cash flow curve, including:

- **Manual creation**
You define all curve properties from scratch.
- **Templates**
You can pre-set curve options, except, for example, actual business process records, and cost sheet columns, which are set at run time. There are two types of cash flow templates:
 - Company level templates, which are created in Standards & Libraries (in **Admin** mode).
 - Project/shell-level templates, which are created within a Project /Shell template (in **User** mode).

See [Creating a Project or Shell Cash Flow Curve From a Template](#).

- **Auto-creation**
Auto-creation of a commitment curve from a base commit record. In the base commit business process workflow set up you can associate a cash flow template with any step except the Creation step. When the base commit record reaches that step, the system will automatically create a cash flow curve.

See [Auto-creating a Cash Flow Curve from a Base Commit Record](#).

- **Copy**
You can copy existing curves from the Cash Flow log, or you can copy data from existing curves.

See [Creating a Project or Shell Cash Flow Curve by Copying](#).

Summary Cash Flow or Summary Cash Flow Curves

A summary cash flow curve is designed to present a consolidated view of cash flows.

A summary cash flow curve:

- Uses the detail cash flow curves to compare the movement of curves against the previous snapshots, and in the process show differences among curves with respect to time and schedule.
- Displays Variance and Forecast analyses, similar to the detail cash flow curves.

When you select a summary cash flow, whether it has been manually defined, or it has been system-defined, the right pane shows the following tabs:

Preview tab

The **Preview** tab lets you see the graph or chart for the summary cash flow that you have selected. Under the X axis, you can select **Baseline**, **Actuals**, or **Forecast** curves to display their graphs or charts for comparison.

Properties tab

The **Properties** tab lets you see the properties of the summary cash flow that you have selected. The **Summary Curve Properties** block on the **Properties** tab contains the following information:

- **Name**
- **Status**

- **Description**
- **Detail Curves**
 - **Available Curves**
 - **Selected Curves**

Creating a Summary Cash Flow Curve

To create a project/shell summary cash flow curve:

Note

The red asterisk next to a field box indicates that the field is a required field. You will not be able to save your changes without entering a value in that field.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. From the toolbar, select **Create** drop-down list and select **Summary Curve** to open the **Create Summary Curve** window.
4. Enter values in the Name, Status, Description fields, and select the detail curves that you want to summarize or compare.
5. To save your changes and create a new summary cash flow, select **Save & Close**. To discard your changes, or close the window, select **Cancel**.

Activity Sheet as a Schedule Source for the Cash Flow

An Activity Sheet can be a source for cash flow used for Resource and Cost Load Schedules. The following topics explain the details.

Cash Flow Analysis

Performing cash flow analysis lets you develop an idea about the financial health and liquidity of your business and determine what is available for you to be used for your business needs. You can perform cash flow analysis based on the following information when using Planned costs, Remaining costs, and Actual costs, from the Activity Sheet:

- Budgets
- Forecast projections
- Actuals

Unifier uses the **Cash Flow** module to determine the financial health of portfolio of projects, or a single project, or contracts. You can use the Activity Sheet data as a source for the cash flow curves. Furthermore, you can bring the activities, or assigned resources units or costs, into the cash flow to track the Budget, Baseline, Forecast, and Spends estimates and compare them to see the distribution over time.

When you use the Activity Sheet to manage activities and resource assignments from P6, you can track the **Baseline**, **Forecast**, and **Actual** (Spends) estimates in the cash flow by using the Activity Sheet data.

You can manage scheduling in P6, and you can manage costs either in P6 or Unifier (depending on the schedule type).

When you use P6, you bring the activities, resource assignments, and spread data from P6 into the Unifier Activity Sheet, and from the Activity Sheet the costs and units are rolled up to the Cost Sheet, by way of the CBS Code, and into the **Earned Value Management** module.

You can use an Activity Sheet as a schedule source in:

- Project/shell detail level
- Data from early start and late finish date from the Activity Sheet
- Cost Breakdown Structure (CBS) detail level
- Data from CBS code assign to the activities in the Activity Sheet
- Summary CBS detail level
- Date of the summary CBS code in the Activity Sheet

Cash flow can support Activity Sheet Schedules in the following cash flow curves:

- **Baseline** curve
- **Forecast** curve

The following is an example for how to create a cash flow based on an Activity Sheet schedule:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cash Flow** to open the **Cash Flow** log.
3. Select **Create** to open and select **Manual**. The **New Cash Flow Worksheet** log opens.

The **New Cash Flow Worksheet** page has two panes with the following toolbar options, blocks, and fields:

Toolbar options:

- **Cancel**
- **Save & Close**

General block:

- **Name**
- **Description**
- **Detail Level**
To select the needed detail level, for example project/shell.
- **Filter CBS Codes**
- **Filter Summary CBS Codes**
- **Manage Filters**
- **Rollup cashflow data to company?**

Time Scale block:

- **Period Type**
- **By**
- **Format**

Right pane:

- **Curves**
To select the needed curve, for example baseline curve. When you select a curve, the curve window, for example Baseline window, opens. In this window, you can select values for the following:
- **Cost**
Options include a manual cost creation or from cost sheet columns such as: **Approved Budget Revisions, Initial Budget, Pending Budget Revisions**, and so forth.
- **Schedule**
To establish a schedule manually, or use dates from a schedule sheet, or use dates from an Activity Sheet. Depending on your initial selection, the picker field enables you to open a window and specify your selection.

Example

You can select a type of active manual Activity Sheet (custom, import, manual, or profile) or the System Activity Sheet in the Select Activity Sheet window. The inactive manual Activity Sheets will not be displayed in the Select Activity Sheet window. In the Select Activity Sheet window, select Manual to open the curve type window (Baseline window). In the Baseline window, you can enter values for the following fields:

- Cost
- Schedule

If the manual Activity Sheet does not have a Baseline schedule, only the "Current" schedule option will be made available, in the Project Type drop-down list.

If you select a System Activity Sheet, the date values (From Date) are from the System Activity Sheet attribute form.

- Project Type
- From Date

The values are from the manual Activity Sheet or the System Activity Sheet.

- To Date
- Distribution

You have the option of selecting a manual distribution, or a distribution based on a set profile which is displayed in the drop-down.

- Variance

When finished, select **Add** to go to the **New Cash Flow Worksheet** log.

In the **New Cash Flow Worksheet** log, right pane, select the **Curves** drop-down field and select a pertinent option, such as Actuals. This will open the select option window (**Actuals** window). In the **Actuals** window, select the values for the following fields:

- Cost
- Variance

When finished, select **Add** to go to the **New Cash Flow Worksheet** log. In the **New Cash Flow Worksheet** log, right pane, you will see the added curve, in this case Actuals.

Use the **Curves** drop-down field to select more curves, such as Forecast, and enter values for each curve.

When finished, select **Add** to go to the **New Cash Flow Worksheet** log. In the upper-right corner of the **New Cash Flow Worksheet** log, select **Save & Close** to create the cash flow.

When the **Cash Flow** log displays, you can select on a profile (from the left pane) to see the preview of the curve on the right pane.

- Select on a profile to open the profile window.
- Select on a curve type tab, for example **Baseline**, to see the details about that curve type.

At this point, for example, you can check the date values in the curve with the values in the manual Activity Sheet (in the left Navigator, select **Schedule Manager**, and then select **Activity Sheet**, open the manual Activity Sheet).

You can update your dates from the manual Activity Sheet, within the **Activity Sheet** sub-node. After changing the dates, select **Save**, select **Actions**, and select **Update Baseline**. When finished, go to the **Cash Flow** sub-node, find the item, open the item, and select **Refresh** to see the new dates.

If you select more than one item, or date, you can change the values by using the **Bulk Edit** option (toolbar option).

You can use the import and export features to update values.

Using Activity Sheet Data to Track Baseline, Forecast, and Spends in Cash Flow

You can perform Cash Flow analysis based on the budgets, forecast projections, and actuals received by using the Planned, Remaining Cost, and Actual Costs received from the Activity Sheet. In summary, for:

Cash Flow curves: CBS Detail, Baseline, and Forecast (Activity level)

Ability to define Baseline and Forecast Cash Flow curves with the Activity Sheet (Activity level) selected as a source for distribution or cost. In this scenario:

The period distribution for each CBS Code is received at the Activity level, from the selected Activity Sheet. The value is the sum of all the planned units for each CBS code by the day on which it will distribute the costs. The schedule is disabled after you select Activity Sheet as the distribution source.

The cost distribution for each period can either be calculated based on the units and total cost received from cost sheet column, or based on the cost spread received from Activity Sheet (Activity level).

You can get data either from the current project or the baseline. If you use Baseline, you can directly assign CBS codes.

Cash Flow curves: CBS Detail, Baseline, and Forecast (Resource level)

Ability to define Baseline and Forecast Cash Flow curves with the Activity Sheet (Resource level) selected as a source for distribution or cost. In this scenario:

The period distribution for each CBS Code will be received at Resource level, from the selected Activity Sheet. The value is the sum of all the planned units for each CBS code by day which it will be used to distribute the costs. The schedule will be disabled after you select Activity Sheet as the distribution source.

The cost distribution for each period can either be calculated based on the units and total cost received from cost sheet column, or based on the cost spread received from Activity Sheet (Resource level).

You can get data either from the current project or the baseline. If you use Baseline, you can directly assign CBS codes.

Cash Flow curves: CBS Detail, Spends (Activity level)

You can define Spends Cash Flow curves when the Activity Sheet (Activity level) is selected as a source for cost. The value is the sum of all the actual costs for each CBS code per day across the activities.

Cash Flow curves: CBS Detail, Spends (Resource level)

You can define Spends Cash Flow curves when the Activity Sheet (Resource level) is selected as a source for cost. The value is the sum of all the actual costs for each CBS code per day across the activities.

Similar to the P6 Summary Sheet, you can use the Activity Sheet as a source in Cash Flow.

The following table explains the details:

Type	CBS
Baseline (Distribution)	Activity Sheet (Activity Level) Sum all the planned units for each CBS code by day which will be used to distribute the costs. You can select either the current project or the baseline. If you use Baseline, you can directly assign CBS codes. Activity Sheet (Resource Level) Sum all the planned units for each CBS code by day which will be used to distribute the costs. You can select either the current project or the baseline. If you use Baseline, you can directly assign CBS codes.
Baseline (Cost)	Cost Sheet Column Activity Sheet (Activity Level) Sum all the planned costs for each CBS code by day. You can select if this is from the current project or the baseline. If you use Baseline, you can directly assign CBS codes. Activity Sheet (Resource Level) Sum all the planned costs for each CBS code by day. You can select if the from the current project or the baseline. If you use Baseline, you can directly assign CBS codes.
Baseline (Schedule)	Schedule is derived from the unit distribution.
Spends (Cost)	Activity Sheet (Activity Level) Sum all the actual costs for each CBS code by day. Activity Sheet (Resource Level) Sum all the actual costs for each CBS code by day.
Forecast (Distribution)	Activity Sheet (Activity Level) Sum all the remaining or at completion units for each CBS code by day which will be used to distribute the costs. (Schedule disabled) Activity Sheet (Resource Level) Sum all the remaining or at completion units for each CBS code by day which will be used to distribute the costs. (Schedule disabled)

Type	CBS
Forecast (Cost)	Cost Sheet Column Activity Sheet (Activity Level) Sum all the planned costs for each CBS code by day. Activity Sheet (Resource Level) Sum all the remaining or at completion costs for each CBS code by day.
Forecast (Schedule)	Schedule is derived from the unit distribution.

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

CBS Type Cash Flow Curve

In a CBS type cash flow curve, you can access the units, or cost data, from the Activity Sheet according to the CBS Code at one of the following levels:

- Activity
- Resource

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

Baseline Type Cash Flow Curve

In a Baseline type cash flow curve, you can access the following, from the Activity Sheet, per CBS code:

- Planned units or costs
- Remaining units or costs
- At Completion units or costs

In this scenario, the costs information originates from one of the following resources within an Activity Sheet:

- Cost sheet column
- Planned units or costs
- At Completion units or costs

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

Forecast Type Cash Flow Curve

In a Forecast type cash flow curve, you can access the following, from the Activity Sheet, per CBS code:

- Planned units or costs
- Remaining units or costs
- At Completion units or costs

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

Spends Type Cash Flow Curve

In an **Actual** (or "spends") curve type cash flow curve, you can access actual costs, from the Activity Sheet, in addition to costs from the Cost Sheet Column or from P6 Summary Sheets.

In summary, for:

- **Cash Flow CBS Detail Curves—Baseline and Forecast (Activity level)**, you can define the Baseline and Forecast cash flow curves with the Activity Sheet (Activity level) selected as a source for distribution or cost.
 - The period distribution for each CBS Code will be received at the Activity level from the selected Activity Sheet. It is the sum of all the Planned units for each CBS code, by day, which will be used to distribute the costs. The schedule will be disabled after you select Activity Sheet as distribution source.
 - The cost distribution for each period can either be calculated based on units and total cost received from the cost sheet column, or from the cost spread received from the Activity Sheet (Activity level).
 - You can get the data either from the current project or the Baseline. If you use Baseline, you can directly assign CBS codes.
- **Cash Flow CBS Detail Curves—Baseline and Forecast (Resource level)**, you can define Baseline and Forecast curves with the Activity Sheet (Resource level) selected as a source for distribution or cost.
 - The period distribution for each CBS Code will be received at the Resource level from selected Activity Sheet. It is the sum of all the Planned units for each CBS code, by day, which will be used to distribute the costs. The schedule will be disabled after you select Activity Sheet as distribution source.

- The cost distribution for each period can either be calculated based on units and total cost received from cost sheet column, or from the cost spread received from the Activity Sheet (Resource level).
- You can get the data either from the current project or the Baseline. If you use Baseline, you can directly assign CBS codes.
- **Cash Flow CBS Detail Curves—Spends (Activity level)**, you can define **Actual** (or "spends) curve with the Activity Sheet (Activity level) selected as a source for cost. It will be the sum of all the actual costs for each CBS code, per day, across the activities.
- **Cash Flow CBS Detail Curves—Spends (Resource level)**, you can define **Actual** (or "spends) curve with Activity Sheet (Resource level) selected as a source for cost. It will be the sum of all the actual costs for each CBS code, per day, across the resources.

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

Activity Sheet with Resource-Loaded and Cost-Loaded Schedules

For all CBS shells, the following Cash Flow curves can get data from an Activity Sheet:

- Baseline
- Forecast
- Spends

Note

To ensure that Cash Flow curves represent CBS codes, schedule dates, and costs from the baseline and not just the current project, you can manually enter CBS codes on the Activity Sheet when you switch to **Baseline Project View**.

When you are defining Baseline, Forecast, and Spends Cash Flow curves (when the detail level is selected as CBS, based on the schedule type of the source project), the Activity Sheet is available as a source for:

- Distribution
- Schedule
- Cost

The option is not available for Cash Flow curves when the detail level is selected as:

- By Project
- By Summary
- By Contract

The Cash Flow curve properties window enables you to select to get data from:

- Baseline

- General
- Schedule sheets
- P6 Source
- Activity Sheet

If you select Activity Sheet, additional options (Cost, Schedule, and Distribution) will be made available, based on the type of activity sheet that you select. In the case Resource-loaded Activity Sheet and Cost-loaded Activity Sheet, the schedule is derived from the source.

The other fields in the Cash Flow curve properties window enable you to select the distribution method and schedule for the Cash Flow curve based on the source of the Activity Sheet.

Note

Be aware that when the cost and schedule are brought in from the System Activity Sheet or a manual Activity Sheet and the Project Type is Baseline or Current, the cash flow uses the *earliest date* across Planned, Actual, or Remaining Cost as the From Date and the *latest date* as the To Date.

An Activity Sheet can be linked to more than one source project.

If an Activity Sheet is linked to two or more source projects, and if at least one source project is duration-based and the other source projects are resource-based, or Cost-loaded, the other fields in the Cash Flow curve properties window will be based on resource-loaded or cost-loaded projects.

When the source project and the **Activity Sheet (Activity level)** are selected as source, the properties window for the Baseline Cash Flow Curve type enables you to select:

- Where to get the original data
- Activity sheet name
- Data type
- Cost
- Schedule and distribution method
- Variance

For Resource-loaded and Cost-loaded schedules, the properties window for the Baseline Cash Flow Curve type enables you to select cost, schedule, and distribution. When you select Activity Sheet, as a source, the **Sheet Name** drop-down field allows you to select one of the following system activity sheets, from the project activity sheets:

- **System Activity Sheet (Activity)**
- **System Activity Sheet (Resource)**

By default, the **System Activity Sheet (Activity)** option will be selected.

Note

The Baseline Cash Flow curve type will display the data from the system activity sheet, if the source is a single project.

In the properties window, the **Project Type** drop-down field enables you to select the following project schedules:

- **Current Project**
- **Baseline Project**

These options are available based on the schedules that have been received.

Note

If you do not receive a Baseline project spread, the options above will not be displayed.

By default, the **Current Project** option will be selected.

When you select Activity Sheet as the source and **Sheet Name** as **System Activity Sheet (Activity)**, the **Cost** drop-down field allows you to select the following options:

- **Manual**
- **Cost Sheet Columns**
- **Activity Sheet Columns**

The **Cost Sheet Columns** option enables you to display all the columns of the Cost Sheet. The **Activity Sheet Data Sources** will display the Planned, At Completion, and Remaining Costs, based on the **Sheet Name** that you have selected.

In the scenarios above, the **Cost** options are:

Use the **Cost** option to select one of the cost sources for the Baseline Cash Flow curve type.

By default, the **Manual** option is selected.

The **Schedule & Distribution** drop-down field displays all the units based on the **Sheet Name** and the project type that you have selected. If you select the **Cost** as **Activity Sheet Columns**, the **Schedule & Distribution** field drop-down will be disabled while displaying **From Activity Sheet**.

The **Schedule & Distribution** drop-down field displays the following options when you select **Sheet Name** as **System Activity Sheet (Activity)** and the **Cost** is selected as **Cost Sheet Columns** or **Manual**:

- **Planned Total Units**
- **At Completion Total Units**
- **Remaining Total Units**

By default, the value in the drop-down field will be **Planned Total Units**.

The following table lists the various selections and results:

When Sheet Name is selected as:	Project type is selected as:	Cost options are:	Schedule & Distribution options are:
System Activity Sheet (Activity)	Current Project or Baseline Project	Activity Sheet Columns: • Planned Total Cost • At Completion Total Cost • Remaining Total Cost	From Activity Sheet option selected and disabled.

When Sheet Name is selected as:	Project type is selected as:	Cost options are:	Schedule & Distribution options are:
System Activity Sheet (Activity)	Current Project/Baseline Project	Cost Sheet Columns	Will show following options: - Planned Total Units - At Completion Total Units - Remaining Total Units
System Activity Sheet (Resource)	Current Project/Baseline Project	- At Completion Cost - Remaining Cost - Planned Cost	From Activity Sheet option selected and disabled.
System Activity Sheet (Resource)	Current Project/Baseline Project	Cost Sheet Column	Will show following options: - At Completion Units - Remaining Units - Planned Units

The following explains **Forecast** Cash Flow curve properties for when the Activity Sheet is selected as a source:

- Start at the end of the actuals. Use the drop-down field and select the actuals curve. The drop-down field displays all the actual curves that have been defined with the Cash Flow curve family.

Note

The Forecast options will be disabled if the Activity Sheet is the source of data.

- Replace the current period Forecast with the actuals on the cutoff date.
- For the unassigned amount, the auto-distribution options will be enabled. You can select the redistribution of unassigned amount based on the weighted average calculations.
- The period close settings option is not applicable to Spend, if the period close settings are received from the Activity Sheet.

The following explains **Spends** Cash Flow curve properties for when the Activity Sheet is selected as a source:

In the **Spends** Cash Flow curve properties, you can select the source of cost as Activity Sheet. The **Spends** Cash Flow curve properties has the following Cost and Distribution options, based on the source that you select:

- Where to bring the approved **Spends** data from.
The **Bring <Spends Curve name> data from** drop-down field displays a list of sources that you can use to bring the actuals cost and distribution. If you select Activity Sheet from the list, the **Sheet Name** field value will be activated and provides the list of sheet names, both at the Activity level and Resource level.
- Sheet name
The **Sheet Name** drop-down field displays the Activity Sheets in the project, which is a single activity sheet or the System Activity Sheet. The following are the options available for the **Sheet Name** drop-down field:
 - System Activity Sheet (Activity)**
 - System Activity Sheet (Resource)**

- **Cost**
The Cost drop-down field displays:
 - The business process columns that are available in the **Cost Sheet**.
 - The formula columns which are based on the business process.
 - The **Activity Sheet** column, **Actual Total Cost**, if the **Sheet Name** is selected as **System Activity Sheet (Activity)**.
 - The **Activity Sheet** column, **Actual Cost**, if the **Sheet Name** is selected as **System Activity Sheet (Resource)**.
- **Schedule & Distribution**
 - This option displays **Actual Total Units** when you select **Cost** as the **Cost Sheet** column and the **Sheet Name** is selected as **System Activity Sheet (Activity)**.
 - This option displays **Actual Units** when you select **Cost** as the **Cost Sheet** column and the **Sheet Name** is selected as **System Activity Sheet (Resource)**.
- **Variance**

The following table shows the various selections:

Sheet Name	Cost	Schedule & Distribution
System Activity Sheet (Activity)	Cost Sheet Column	Actual Total Units
System Activity Sheet (Resource)	Cost Sheet Column	Actual Units
System Activity Sheet (Activity)	Actual Total Cost	From Activity Sheet text selected and disabled.
System Activity Sheet (Resource)	Actual Cost	From Activity Sheet text selected and disabled.

If you select the **Cost** option, the system draws the **Spends** Cash Flow curve by using the **Actual Cost** spread, **Actual Start Date**, and **Actual Finish Date** for each CBS Code, from the selected Activity Sheet.

The following topics explain the various **Baseline and Forecast Budget (Cost Distribution)** Cash Flow curve properties for when the Activity Sheet is selected as a source:

- **Baseline curve or Forecast curve when Schedule & distribution are derived from the Activity Sheet and Cost is derived from the Cost Sheet**
- **Baseline curve or Forecast curve when Schedule & distribution and cost are derived from the Activity Sheet**
- **Baseline curve or Forecast worksheet when Schedule, distribution, and cost are derived from the Activity Sheet**
- **Baseline curve or Forecast worksheet when Schedule, distribution, and cost are derived from the Activity Sheet**

When you select the original source as Activity Sheet for the **Baseline** Cash Flow curve, the **From** and **To** dates and the spread for each CBS Code will be derived from the selected Activity Sheet and **Project Type**. Unifier uses the spread data from the selected Activity Sheet to draw **Baseline** Cash Flow curve (the period units are coming from the activity spread, and the cost will be derived either from the **Cost Sheet** column, or from the activity spread.

Baseline curve or Forecast curve when Schedule & distribution are derived from the Activity Sheet and Cost is derived from the Cost Sheet:

You can select the following distribution and cost sources when the data is originating from the Activity Sheet:

Distribution	Cost	Cost per CBS Code
Sheet Name: System Activity Sheet (Activity) Project Type: Current Project Data Source: Planned Total Units	Cost Sheet Column: Assigned Budget	Cost for each unit per CBS Code = Total cost from the Cost Sheet column/ The number of total units. Cost for each period per CBS Code = The number of units * Cost per unit.

Example

Monthly time scale: Sample monthly unit spread for CBS Code1 which is coming from Planned Total Units in the above scenario:

	January	February	March	April	May	June	July
CBS Code 1	100	100	100	100	100	100	100

If Total cost per CBS Code1 = \$70000, then the cost per unit = $\$70000/700 = \$100$ and cost per period will be = $100 * \$100 = \$10000$

Monthly time scale: Sample cost spread for CBS Code1 for each period will be calculated as follows:

	January	February	March	April	May	June	July
CBS Code 1	\$10000	\$10000	\$10000	\$10000	\$10000	\$10000	\$10000

The above **Cost** spread sample will be distributed in the **Baseline** Cash Flow curve. If the user selects **Sheet Name: Activity Sheet (Resource level)**, with resource units selected as distribution source, and the cost source is coming from the **Cost Sheet** column, then sum all of the Planned units for each CBS Code by day which it will be used to distribute the costs. The Cost per unit will be calculated as shown above. The user should be able to select the units spread from either the current project or the Baseline. The cost distribution will be done in the similar way (as shown above) for the other time periods such as yearly scale or financial periods.

Baseline curve or Forecast curve when Schedule & distribution and cost are derived from the Activity Sheet:

You can select the following distribution and cost sources for the data that is originating from the Activity Sheet:

Distribution	Cost	Cost for each unit per CBS Code
Sheet Name: System Activity Sheet (Activity) Project Type: Current Project Data Source: Planned Total Cost	Cost in this case is coming from Planned Total Cost spread data at Activity level for each CBS Code.	The cost will be calculated in the source Activity Sheet itself using the units and assigned role or resource rate at Activity level. Cost for each period per CBS Code: Sum of all planned costs for each CBS Code at activity level.

The sample cost spread for the CBS Code 1, when the selected Planned Total Cost in the above scenario is as follows:

Note

In this case, the cost spread data will be received from the selected Activity Sheet (either from current project or Baseline).

	January	February	March	April	May	June	July
CBS Code 1	\$100	\$100	\$100	\$100	\$100	\$100	\$100

If you select the new distribution and cost options from the Activity Sheet, then:

- Both the cost and dates will be received from the Activity Sheet spread data.
- The forecast curve, which is set to begin at the end of actuals curve, shows data from the data date instead of the current period.
- You can select distribution from the Activity Sheet and cost from the Cost Sheet column, or manual, so that the cost spread will be calculated using the total spread units from the Activity Sheet, and the total cost received from the Cost Sheet, or entered manually.
- The Project Type drop-down field and the Data Source field enables you to get the units or cost spread from the Activity Sheet current project or baseline. The values for the fields are Planned, At Completion, and Remaining. By default, the Planned options is selected.
- For the Forecast Cash Flow curve, the spread data (units or costs) comes from Planned, At Completion, and Remaining costs or units. In the Forecast Cash Flow curve the default data source is At Completion. The Forecast Cash Flow curve that is set to begin at the end of actuals shows the actuals received as of current date, from the Activity Sheet or from the Cost Sheet column, and the remaining periods show the spread data received from the Activity Sheet (including the redistributed unassigned amount). The unassigned amount is redistributed in the remaining periods, based on the selected weighted average option.

Baseline curve or Forecast worksheet when Schedule, distribution, and cost are derived from the Activity Sheet:

For each CBS Code in the Baseline or Forecast worksheet, when the source is selected as Activity Sheet:

- From Date will be the earliest date (beginning period from the selected Project spread data). This can be either at Activity level or Resource level based on the sheet name that you have selected. Similarly, the dates come from the current project or baseline.
- To Date will be the latest date (from the selected Project spread data). This can be either at Activity level or Resource level based on the sheet name that you have selected. Similarly, the dates come from the current project or baseline.
- From Date and To Date are read-only.
- The Profile column remains empty and will be read-only.
- The Period data shows the costs distributed from the spread.
- The distributed costs can be calculated when units are coming from the Activity Sheet, only (you can bring the costs from the Activity Sheet). The data will be read-only, similar to the data received from the P6 Summary Sheets.

Note

The project picker will not be available in the worksheet. You can see the project picker when you are allowed to pick a project as source. In this case, the data is filtered (in the graph and worksheet) based on the project.

- The worksheet tab enables you to export.
- The Cumulative and Incremental graphs are available.
- The unassigned amount in the Forecast curve, or Baseline curve, is redistributed in the remaining periods, based on weighted average option that you have selected.

Spends Curve and Data Distribution

The following explains:

- When both cost and distribution is coming from Activity Sheet
- When the total actual cost is derived from cost sheet and schedule/distribution is derived from Activity Sheet

When both cost and distribution is coming from Activity Sheet

You can define the Spends curve to get the actuals spread data from the Activity Sheet for the Resource loaded or Cost loaded projects. When you select the Activity Sheet as a source for the Spends curve, the system will derive the distribution and actual costs from the Activity Sheet. The actual spread data will be coming from the current project.

The **From Date** and **To Date** fields are displayed according to the values of the earlier **Actual Start Date** and **Date** which is across the activities, per CBS Code for In progress activities. The **From Date** and **To Date** fields are read-only.

Note

The **Data Date** field value can be in the past, current, or in the future. The Actuals are always shown, until the date of the **Data**.

The Actuals in periods show the spread data coming from the Activity Sheet that you have selected.

The distribution data is read-only.

The Actual spread data as of the data date is displayed in the Forecast curve worksheet if in the Forecast curve properties, the curve is set to begin at the end of the actuals.

The graph shows both the actuals (cumulative and incremental values).

The Actual spread data per CBS Code will be until the data date. For example, if the Actual Start is 02/10/2020 and Data Date is 08/15/2020, then the Actuals cost spread will be shown until the data date (08/15/2020), in the worksheet.

	From Date	To Date	Feb	Mar	Apr	May	Jun	Jul	Aug
CBS Code 1	02/10/2020	08/15/2020	\$100	\$100	\$100	\$100	\$100	\$100	\$100

Forecast with Actuals

When you select the source as Remaining Total Cost, or Remaining Total Units, the remaining spread data will be used as source for the Forecast curve. The Actuals will be seen as of data date, and the remaining spread will start from the data date. For example, in the table above, the month of August will show the Actuals as of date + remaining Forecast data (\$700 + \$100).

	From Date	To Date	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
CBS Code 1	08/15/2020	04/15/2021	\$800	\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100

When the total actual cost is derived from cost sheet and schedule/distribution is derived from Activity Sheet

You can receive the Actual spread units from the Activity Sheet and the total payment amount from the **Cost Sheet** column. In this case, the Actual cost can be calculated as the number of actual units * actual cost per unit. See the following example for the monthly time scale:

	January	February
CBS Code 1	50	10
CBS Code 2	0	20

In this example, if the total actual cost (received from the Cost Sheet column) for CBS Code 1 is \$6000, and the CBS Code 2 is \$1000, then the actual cost per unit will be as follows:

	January	February
CBS Code 1	\$50000	\$1000
CBS Code 2		\$1000

Additional Information:

- If an Activity Sheet has more than one mapped source projects, the system displays the following message: You cannot view the data because the system activity sheet is mapped to more than one source project with different data dates.

Note

Cash Flow curves will receive data from the System Activity Sheet mapped with multiple source projects, if they all have the same data date.

- If you select an Activity Sheet as a source to one or more Cash Flow curves in the Cash Flow detail curves, you cannot open the Cash Flow curve in Classic View, and the system displays the following message when you try to open a Cash Flow worksheet, or properties, in Standard View: The source for one or more curves is Activity Sheet. You cannot view the curves in Classic View.
- If an Activity Sheet has not been created in the project, the drop-down field will not display Activity Sheets as an option for the Baseline, Forecast, and Actuals Cash Flow curves.
- The Baseline, Forecast, and Actuals Cash Flow curves show the properties irrespective of the schedule type for the System Activity Sheet. Furthermore, the **Sheet Name** drop-down field displays manual activity sheets that are created in the project.
- The Cash Flow worksheet does not show the data for the Cash Flow curves that are based on the Activity Sheet, if there is no cost spread or unit spread associated with the activities in the selected Activity Sheet.

Portfolio Manager Budget Curves

The Portfolio Budget curve is linked to scenarios in the Portfolio Manager. The project manager must create this curve. After it is created, the curve shows the initial budget projections.

When you open a Portfolio Budget curve, you can view the data in the transaction currency, if different from the project currency.

Note

If the currencies of your data sources are different, you can create a base currency using the Derived curve as your data source.

For cash flow purposes, the Portfolio Manager extracts a project's baseline or forecast budget numbers for use in a scenario sheet.

During a portfolio analysis, the Portfolio Manager can produce three different Portfolio Budget curves:

1. **Shared Budget curve**
2. **Approved Budget curve**
3. **Original Budget curve**

Note

Before you can use these curves, you must add them to your project.

You can pull data from the three different Portfolio Budget curves (Portfolio Manager) into the cash flow curves within your project/shell.

Note

If the currency of data pulled from any of the three different Portfolio Budget curves (Portfolio Manager) is different from the project/shell currency, you can create a Derived curve (using the existing curves within a family) that converts data from existing curves to a different currency.

Shared Budget curve

This curve shows the portfolio planner's proposed number for the project. You will not have access to this curve until the planner shares a scenario. You can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, to see the difference between your project's numbers and the planner's proposed budget numbers.

Approved Budget curve

When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved." They are then locked and stored in the Portfolio Manager. An

Approved Budget curves shows the approved budget for the project for that planning period (usually a year).

Original Budget curve

This curve is for a project in execution. This budget is the last approved budget for the project before it moves into its execution phase. This approved budget becomes the project's original budget; and this original budget, plus any changes that occur to the numbers during the life of the project, becomes the project's approved budget.

Portfolio Manager Budget Curves and Financial Period in Cost Manager

The Portfolio Budget curves (Shared, Approved, and Original), in cash flow, are linked to Portfolio Manager scenarios.

User can attain data from the Portfolio Budget curves (Shared, Approved, and Original), from the Portfolio Manager scenario in Parent Shell, into the cash flow curves within a project/shell.

During a portfolio analysis, the Portfolio Manager can produce the following Portfolio Budget curves:

Shared Budget curve

The Shared Budget curve displays the portfolio planner's proposed number for the project.

The User can include the Shared Budget curve on the Cost worksheet (along with the forecast budget or any other budget curve) to see the difference between the project numbers and the planner's proposed budget numbers.

Approved Budget curve

When a scenario is approved in the Portfolio Manager, the budgets for each project in the scenario are marked "approved."

The system locks and stores the budgets in Portfolio Manager.

An Approved Budget curve displays the approved budget for the project for the planning period (usually a year).

Original Budget curve

The Original Budget is the last approved budget for the project before it moves into its execution phase.

The approved Original Budget becomes the project original budget. This original budget (and any changes that occur to the numbers during the life of the project) becomes the project approved budget.

The Portfolio Manager scenario (with Financial Period as the Period Structure) created in the parent Shell will push/pull the data from respective curve only. That is:

- For the child Shell, it has the same Financial Period in its options, and
- It will consolidate the data for only those cash flows where the timescale has been selected as Financial Period.

If the user selects a financial period from the 'by' drop-down list, the corresponding drop-down list for financial period will get populated with the Financial Period present in the Shell options.

Other options, in timescale, will be disabled (for format and so forth), and it will remain blank with other options enabled (for format and so forth).

For Baseline and Forecast type curves, the summary sheet spreads and schedule manager spreads will be assigned to the relevant period.

For the Actuals, the cost sheet columns and effective dates will be used to assign the values to the relevant period.

Note

For a cash flow curve, the X-axis for graph will still remain the same but the points in the curve will be based on the *Financial Period* that has been selected. The columns in the grid will also be based on the Financial Period that has been selected.

Cost Sheet

A cost sheet captures data from data sources such as cost code data values, budget, business processes (by status), and Activity Sheets.

The system *dynamically* updates the **Company Cost Sheet** with information from the project/shell cost sheets. For more information, see "Company Cost Sheet" below.

Project/Shell Cost Sheet

The project/shell cost sheet is a detailed accounting of the project/shell budget and costs. A cost sheet works like a spreadsheet within the system to calculate and maintain the project/shell cost information stored in the project/shell. The project/shell cost sheet rows contain unique CBS codes (or cost codes), which can be used to link project/shell costs to the general ledger for finance. Cost information can be entered manually, pulled from work packages or worksheets, or rolled up automatically, into the project/shell cost sheet, from business processes when transactions occur in the system.

Project/Shell Cost Sheet Column Properties

- The Datasource drop-down list contains a list of Single, Logical, and P6 data sources (only published P6 data sources as defined in the Standards & Libraries [Admin mode]).
- The Element drop-down list contains the options as defined in the Cost Sheets Templates.
- The Data Format option, Decimal, is selected for all the "Unit" fields that you have selected from the Element drop-down list.

Note

The data sources do not list the P6 Summary Sheets in a Shell. Instead, the P6 Summary Sheets are from P6 Data Sources node, under Standards and Libraries. The system identifies the P6 Summary Sheet that is required for supplying data to the Cost Sheet by mapping the Summary Sheet "Type" to the column data source.

Work packages

In addition to a project/shell cost sheet, multiple work packages may also be defined. A work package is a group of cost sheet rows that is a subset of the project/shell cost sheet. Work packages provide insight into the budget without providing full access to the details of the project/shell cost sheet.

Worksheets

Cost worksheets can be created to support the project/shell cost sheet. They can be used as sub-cost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project/shell cost sheet column. For example, a worksheet can be used to offload complex calculations, which can be rolled up into a single cost sheet column. Worksheets support manual data entry and formulas. Business processes do not roll up to worksheets. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

For Base Commits, Change Commits, and Payment Application BPs of Summary Payment Application SOV type.

- The Costed line items (in Base Commits, Change Commits, and Payment Applications with SOV type, "Summary Payment Applications BPs) roll up to the Cost Sheet by using the "Amount" field.
- The Amount that rolls up to the Cost Sheet is the Costed Amount for each of the CBS codes that is added to the Cost Distribution grid.
- If the Line Item Amount = Costed Amount, you will see a discrepancy between the Total Amount seen in the Line Item section of Record, and the rolled up Amount to the Cost Sheet.
- You can go to the Line Item level details by opening the record in the Transactions section.

Company Cost Sheet

A **Company Cost Sheet** pulls cost information from across all the CBS projects/shells that exist in a Unifier instance.

Note

There is only one **Company Cost Sheet**.

The company administrator can create a company level cost sheet (the **Company Cost Sheet**) to display the cost data across all the projects/shells.

Projects/shells included in the **Company Cost Sheet** are added by default as the project/shell-level cost sheets are created.

Note

Only the **Active** and the **On-hold** projects/shells must be rolled up to the **Company Cost Sheet**.

Company Cost Sheet Columns Properties

Data rolls up to the **Company Cost Sheet** columns from the individual project/shell cost sheets columns, by data source.

The **Company Cost Sheet** columns headings provide the following information, upon hover over:

- **DataSource**
- **Total**
- **Formula** (when applicable to the data source)

For details about **Company Cost Sheet**, see [Working with the Company Cost Sheet](#).

Types of Cost Sheet Data Entry

Cost sheet cells can be populated with data in the following ways, depending on how the column has been set up:

Manual entry: Your cost sheet may include some columns in which you can enter data through line items or directly into a cell. Line items can be added manually by copying data from an existing line item within the cell or from copying existing line item data from one column to another.

Business processes: Cost sheet data can also be rolled up automatically when cost-type business processes reach a specified status. For example, when a purchase order is approved, the amount can be rolled up to the appropriate column and CBS codes.

Formulas: Cell data is calculated from other column entries based on a formula defined for the column. The formula may include data from other columns.

Budget: Information from the project/shell budget can be rolled up to budget columns. This data is entered in the Budget window.

Worksheet: Data can be entered into worksheets and rolled up to cost sheet columns.

The following sections discuss how to view, enter, and manage cost sheet data and budget information.

Adding a New Cost Sheet

When adding a new cost sheet either by way of copying from a template or by way of copying from a CBS Shell instance, note the following:

Adding a new Cost Sheet by way of copying from a template

- If the CBS Shell instance *does not have* the Schedule Type Data Element on the attribute form, the templates that have the option "Enable P6 sources" selected are not available for use. That is, you are not able to add a cost sheet that has P6 Sources to the Shell.
- If the CBS Shell instance *does have* the Schedule Type Data Element on the attribute form, you can only select the "Tree" structure cost sheet.

Adding a new Cost Sheet by way of copying from a Shell instance

- If the CBS Shell instance *does not have* the Schedule Type Data Element on the attribute form, the shell instance that have the option "Enable P6 sources" selected are not available for use. That is, you are not able to add a cost sheet that has P6 Sources to the Shell.
- If the CBS Shell instance *does have* the Schedule Type Data Element on the attribute form, you can only select the "Tree" structure cost sheet.

More information about adding a new Cost Sheet

- **Enable P6 sources**
You can select any Cost Sheet *with* the option "Enable P6 sources" selected, or *without* the option "Enable P6 sources" selected.

After a new Cost Sheet is created within a CBS Shell instance, the option "Enable P6 sources" is carried over from the source. The "Enable P6 sources" option is editable if no columns are added to the Cost Sheet via the P6 Data sources. If a Cost Sheet contains

columns that use P6 Data Sources, you cannot edit (Select or Deselect) the "Enable P6 sources."

Working with Project or Shell Cost Sheets

This section discusses working with cost sheets in Projects and in CBS-code based shells.

For information about cost sheets in generic shells, see [Generic Cost Manager](#).

Cost Sheet sub-node (Standard View)

When you select the **Cost Sheet** sub-node (go to the shell tab, and switch to **User** mode; in the left Navigator, select **Cost Manager**, and then select **Cost Sheet**), the **Cost Sheet** log opens. This log displays the cost sheets, worksheets, and work packages (where available) within the project/shell. The log has the following elements:

- Toolbar
- Grid displaying the list of all the sheets within the project/shell
- Right pane capturing the details of each sheet

The **Cost Sheet** log toolbar options:

Option	Description
Create	Lets you create a Worksheet (from a template or from projects) or Work Package .
Actions	Lets you set the permissions (Permissions).
View	Lets you set the view of the log by showing all sheets (All) or group the sheets by type (Group by Type).
Refresh	Lets you update the information of the items listed on the log.

Option	Description
Print	Lets you print the sheet (Print) or export it to CSV (Export To CSV) or Microsoft Excel (Export To Excel). Note - For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. - If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
Find on Page	Lets you find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

The **Cost Sheet** log grid column headings include Name, Reference No., Date Created, and so on.

When you select a worksheet, the **Cost Sheet** log tabs (right pane) include Properties, Permissions, and Audit Log. Be aware that the Audit Log only provides details based on the import of a CSV file or an API-based update.

When you select a work package, the **Cost Sheet** log tabs (right pane) include Properties and Audit Log. Be aware that the Audit Log only provides details based on the import of a CSV file or an API-based update.

To open a sheet, select the *gear menu* () and select **Open**. After you open a cost sheet, the **Cost Sheet** overlay opens. The next topic explains the elements of the **Cost Sheet** overlay.

Project or Shell Cost Sheet

When you open a project/shell cost sheet, the **Cost Sheet** overlay window opens and the following elements appear on the screen:

- Cost Sheet header and locked/unlocked indicator
- Toolbar enabling access to several actions
- Grid with rows (if available) and columns

To open a cost sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**.
3. In the **Cost Sheet** log, open the applicable cost sheet.

The **Cost Sheet** overlay window toolbar options are as follows:

Option	Description
Manage Rows 	Note This option is available only to those users who have permission to modify the cost sheet rows. Selecting this option enables you to open a new grid sheet (inline), on top of the cost sheet, titled: Manage Rows. For a tree-structure cost sheets, the Manage Rows sheet has the following toolbar options: Add Sibling Add Child Note Note When no cost code has been created yet, the toolbar has only the Add option (instead of the two separate Add Sibling and Add Child options). Refresh Print Find on Page Expand All Groups or Collapse All Groups For a flat-structure cost sheets, the Manage Rows sheet has the following toolbar options: Add Selecting Add, when no row has been selected, adds a new row at the bottom of the existing rows. Selecting Add, when a row has been selected, insert a new row below the selected row. You can always drag the row to move it above or to any other valid place. Refresh Print Find on Page When you make changes, the following additional options (upper-right corner of the screen) enable you to cancel or save your changes: Cancel Save

Option	Description
	The Manage Rows sheet has the following columns that are stationary: • Cost Code • Code Name Other columns on the Manage Rows sheet vary as per design (as defined in the Cost Sheet Attribute Form in uDesigner). For each cost code row in the Manage Rows sheet, you have the following options columns at the very end: • An indicator to show if a cost code row is associated with notes. • Attachments: An indicator to show if a cost code row is associated with attachments. • Delete: If a row is eligible for deletion (that is, there is no cost associated with that cost code), you can delete the row by using this option. When you select this option, the row and the child rows will be deleted. Note When a record is terminated or a rolled up line item is deleted, the system still maintains references to these line items with the CBS code. In such scenarios, the referenced CBS codes cannot be deleted. However, if a CBS code is referenced by a line item data either by direct cell entry or a manual line item is created in the cost sheet, upon deleting the line item data from the cost sheet, you can delete the CBS codes. • Reorder: You can select multiple rows and drag them to another position. If there is no cost associated with a selected row, you can drag codes to another location below any parent. If any of the selected codes is associated with a cost, you cannot drag the group to another parent or hierarchy. For each cost code row in the Manage Rows sheet, there is a right pane (bottom) that captures more details on the code. This pane contains following tabs: • Breakdown tab: The Breakdown tab contains the following toolbar options: – Add If you do not select any rows and select Add, the system inserts a new row on the grid at the bottom of the existing rows. If you select one or more rows and select Add, the system inserts a new row below the selected row, or rows. – Find on Page – Row #: This is the same as the row # column in main grid in this window. The system displays an error message if you:

Option	Description
	* Save your changes without entering a name. * Create a breakdown with a duplicated name. The red triangle symbol signifies the existence of an error in a row. The error pop-up displays Row # that contains the error, the CBS description (from the main sheet row that contains the error), the tab name, and the error description. – Name: Required field for capturing the breakdown name. – Description: To capture breakdown description. – Delete: Column header is blank. Select to delete the selected row. – Reorder: Enables you to reorder breakdowns through drag and drop (same as drag or drop at other places in the system, such as Manage Views screen, and so on). • Attachments tab: Same as the Attachments tab in Work Package (Standard View) and right pane of the Attachments tab in the Cost Sheet log. • Notes tab: Similar to the Comments tab of a BP record (right pane). It cannot be used to add attachments to a comment. • Audit Log tab: Use this tab to access a record of the details such as Date, Event, Action, User Name, and so on. Be aware that the log only provides details based on the import of a CSV file or an API-based update. For a tree-structure cost sheet, the right-click options for a cost code row, within Manage Rows window, are: • Add Sibling • Add Child • Copy • Delete For a flat-structure cost sheet, the right-click options for a cost code row, within Manage Rows window, are: • Add • Copy • Delete For both a tree-structure cost sheet and a flat-structure cost sheet, when you select multiple rows, the right-click options are: • Copy • Delete

Option	Description
Add Column 	Enables you to open the New Column overlay window which contains the following fields: • Name: Enter the name of the new column. • Type: The drop-down menu enables you to select the values: – From Business Processes (the default value for Type) Select the From Business Processes option if you want to have a column in the Cost Sheet log the pulls data from the Amount field of a Business Process. If you select this option, then: - The New Column form (overlay window) stays as is. - The Data Source drop-down menu gets updated to show a list of all Business Process data sources which can be used to create a column.  Note The data sources that have been used to create a column will not be included in the list. To create the column successfully, you must populate the required options on the form. • Direct Entry: Select the Direct Entry option when you want to enter Numeric values into the cell directly. When you select this option on the overlay form, similar to the "From Business Process" option, the form stays as is. The only difference is that the Data Source drop-down menu displays "Logical Sources," only. Also, those sources that have already been used to create a column will not be displayed in this list. • Line Item Content: Select the Line Item Content option when you want to enter data for each cell in the column in a line item format, allowing multiple line item entries per cell. The total is displayed in the cell. When you select this option on the overlay form, the overlay form stays as is. The behavior of the Data Source drop-down menu is the same as when you select the "Direct Entry" option. • From Worksheet: Select the From Worksheet option when you want to populate the data in the Cost Sheet column from another column in an existing worksheet within the project/shell. When you select this option: - The Data Source drop-down menu displays a list of all those logical sources that allow the "Sheet" type entry method. - The sources that have already been used to create a column do not show up in the list.

Option	Description
	The Type drop-down menu will contain two additional options: - Sheet Name This is an editable drop-down menu. - Column This is a drop-down menu, which is enabled only when you select a sheet from the "Sheet Name" column; otherwise, the Column option is read-only. • From EVA Sheet (for more information about EVA, refer to the <i>Unifier Earned Value Management User Guide</i>). Select the From EVA Sheet option when you want to populate the data in the Cost Sheet column from an EVA sheet. When you select this option: - The Data Source drop-down menu displays a list of all those logical sources that allow the "Sheet" type entry method. - The sources that have already been used to create a column do not show up in the list. The Type drop-down menu will contain two additional options: - Sheet Name: This is an editable drop-down menu. - Column: This is a drop-down menu, which is enabled only when you select a sheet from the "Sheet Name" column; otherwise, the Column option is read-only. • From Activity Sheet: Select the From Activity Sheet option when you want to populate the data in the Cost Sheet column from an Activity Sheet. When you select this option: - The Data Source drop-down menu displays a list of all those logical sources that allow the "Sheet" type entry method. - The sources that have already been used to create a column do not show up in the list. The Type drop-down menu will contain two additional options: - Sheet Name: This is an editable drop-down menu. - Column: This is a drop-down menu, which is enabled only when you select a sheet from the "Sheet Name" column; otherwise, the Column option is read-only.  Note In Cash Flow, Cost Sheet, and Earned Value, you can replace the Summary Sheet with the Activity Sheet as a source. • Formula: Select the Formula option when you want to populate the Cost Sheet column as a formula-based on other existing columns in the sheet. When

Option	Description
	you select this option, the Data Source drop-down menu gets updated to show a list all the logical sources that allow the "Formula" type entry method. Also, those sources that have already been used to create a column will not be included in this list. In addition, the formula creator option is displayed below the Data Source field. When you select the formula creator, an interface to create a formula opens. • P6 Sources: You can select the P6 Sources option when the sheet is enabled to create column from P6 sources. You can select the P6 Sources option if you want to populate the Cost Sheet column from a P6 Datasource. When you select the P6 Sources option, the Data Source drop-down menu gets updated to show a list all available P6 sources (those sources that have not been used to create a column so far). In addition, the Data Source drop-down menu will be followed by the Element drop-down menu. • Data Source: The Data Source drop-down menu changes as the value in the "Type" drop-down menu change. Each change is captured above. In some cases, the Datasource name is preceded by *** (asterisks). This indicates the status of a BP that does not exist in the design anymore. If there are any BP statuses that have been removed from the design and are displayed in the Data Source drop-down menu with *** (asterisks) next to them, when you select the Type as "From Business Process," the Data Source drop-down menu shows a tooltip next to it. Upon hover over, the tooltip states: *** Indicates the status does not exist in the design. • Data Format: The Data Format option is available when a value is available to select; otherwise, it will not be visible. For example: The Single Source columns can be of data format "Currency" or "Decimal," only. So, for these columns, the "Percentage" radio option is not visible. • Display Mode • Total • Column Position after The New Column overlay window has the following action options: • Cancel • Save • Save & Add New
View	These options let you use a default view, create your own views, and manage (rearrange, hide, show, and delete) views. See Cost Sheet Views. • Default • Create New View • Manage Views
Edit View 	Use this option to modify the current view.

Option	Description
Forecasting	 Note This option is available only if the cost sheet is enabled for forecasting. When you select this option, the Classic View of Forecast Adjustment window opens.
Refresh 	Enables you to see the added values to the columns of the sheet.
Print 	Use this option to print or export the log content.
Find on Page 	Use this option to search for specific entries in the sheet.
Expand All Groups  or Collapse All Groups 	Enables you to expand or collapse the sheets to see the subordinates.
Menu Options 	Enables you to conduct and access: • Import – Summary Budget – CBS Details • Export – Summary Cost Sheet – Summary Budget – CBS Details – Column Details • Columns – Unhide – Restrictions • Snapshots – Create – Open – Enable Auto Snapshot • Currency – Project Currency – Base Currency • Budget Distribution: See Budget Distribution below for details. • Row Coloring – Multi-Color – Single-Color • Properties • Audit Log
Currency Toggle 	Enables you to switch the cost sheet currency from Project Currency to Base Currency (or conversely).

The **Cost Sheet** overlay window column options may vary. The following are a list of possible columns:

- Sequence No.
- CBS Code (or Cost Code): Static column

- CBS Item (or Code Name): Static column
- Assigned Budget
- Purchase Orders (Approved)
- Change Orders (Approved)
- Invoices (Approved)
- Contingencies
- LI Content
- Risks & Issues (Closed)
- Forecasts
- Budget Approval (Approved)
- Budget Transfers (Approved)
- CBS/WBS Actuals (Approved)
- Contract Change Orders (Approved)
- Contracts (Approved)

The bottom of the **Cost Sheet** log (underneath the second column from the left, after the Sequence No. column) displays the totals for the amounts for each column.

The lower-left corner of the **Cost Sheet** log displays the total number of items.

When you right-click a cell heading, you will see the following options:

- **Insert**
- **Properties**
- **Hide**
- **Delete**
- **Lock after this column**

When you right-click a cell within the cost sheet, you will see the following options:

- **Add Sibling Row**
- **Add Child Row** (available only if the selected cell row is not associated with any cost item or line item data)
- **Insert Column Before** (not available if you select a cell within the CBS Code or the CBS Item columns)
- **Insert Column After** (not available if you select a cell within the CBS Code or the CBS Item columns)
- **Copy**
- **Delete**

When you select a cell, the **Cost Sheet** screen opens a pane on the right side that has the following tabs:

- **General**
- **Attachments**
- **Notes**
- **Fund Assignment Order**

These tabs provide additional information about each cell. Where allowable, you can update the fields within each tab.

The **Budget Distribution** overlay window contains the following elements:

Element	Description
When the Budget Distribution is locked (padlock icon in locked position)	The following blocks (accordion menu) are visible: • Overview: If available, the right pane of this block (accordion menu) contains the following tabs: – Attachments – Audit Log – Lock/Unlock History • Distributed Amount: Enables you to see the Cost Code, Code Name, Type, and Distributed Amount. You can use the toolbar options to refresh, print (or export), find, and collapse the information in the log. The right pane of this block (accordion menu) contains the following tabs: – General – Attachments – Notes All the fields are read-only. If you select Unlock, you must enter a reason.
When the Budget Distribution is unlocked (padlock icon in unlocked position)	You have all the options available in the locked position, and you can change the values in the editable fields. Once finished, you must select Save & Lock.

Cost Sheet Views

In addition to opening and viewing a cost sheet within a project/shell, you can create your own views with filters, groupings, and so on, to modify the default view of the cost sheet. You can view values from data sources such as activity sheets, as well as cost attributes from the Cost Attribute Form. When you create a view, you can select columns from the cost sheet as well as Data Elements (DEs) from the Cost Attribute Form. For example, you can view information for specific CBS Codes and then filter and group them by their Status of Active and Inactive.

Note

- You can use all applicable DEs from the Cost Attribute Form, including hidden blocks and Date and Date Only Picker DEs, but excluding all other Picker DEs and multiple-select input fields, if the DEs are included on the form.
- If you switch to the Base Currency view, no exchange currency rates will be applied. Currency DEs on the Cost Attribute Form will be in the project currency format.

After you open a specific cost sheet, a **View** option is available after the **Add Column** option. If your administrator defined global views in a Cost Sheet template and they are linked to your project/shell, these views are available through the **Manage Views** option. You can make these views visible in your cost sheet, and you can change the order in which they are listed. After they are visible, you can use them to create additional custom views. You cannot edit or delete the predefined views. You can add multiple filters to a view, and you can use the same

data element multiple times. When adding multiple filters, you can use operators to specify that the view must match all listed filters or that it can match one or more of the listed filters.

① Note

- If the administrator pushes additional updates to the Cost Sheet template, custom views that you created are deleted.
- If the administrator imported predefined cost sheet views through a configuration package, the views are hidden (the **Visible** checkbox is deselected) if the destination contains the same shell template and cost sheet. If the destination environment does not have the same shell template, the views are imported and visible when the cost sheet is created in the destination.

If the cost sheet is created from the project template, the sheet initially uses the **Default** view, which is selected from the **View** list. You can use the **Create New View** option to create views or the **Manage Views** option to manage (show, hide, rearrange, or delete) existing views in the **View** list.

The View list within the cost sheet is followed by the **Edit View** option.

Creating Cost Sheet Views

When you choose **Create New View**, a **New View** window is displayed. A **Save View As** text box with **New View** as the default value can be seen at the top of the window. Validations are performed to ensure that the view has been given a unique name.

The **Save View As** text box is followed by the **Cancel** and **Save** options. If you choose **Cancel**, creation of the new view is canceled and you are brought to the previous view in the cost sheet. If you choose **Save**, the new view is saved and loaded into the cost sheet.

There are multiple tabs below the **Save View As** text box. For more information, see the following:

- [Columns Tab in the New View Window](#)
- [Filters Tab in the New View Window](#)
- [Group By Tab in the New View Window](#)
- [Sort By Tab in the New View Window](#)
- [Conditional Formatting Tab in the New View Window](#)

Managing Cost Sheet Views

Similar to BP logs in the Standard interface, the **Default** view and all the manually created views are available in the **Manage Views** window. This window has the same features as other logs, which also have the **View** feature within them.

Editing Cost Sheet Views

In the **Edit View** window, you can update the name of the view or use it to create a view with a different name. (You cannot change the name of the Default view; however, you can use it to create a view with a different name.) The view name is followed by the options available for canceling the edit action, saving changes, and saving the view with a new name, or **Cancel**, **Save**, and **Save As**. When you select **Save As**, a small overlay form is displayed where you can save the view with a new name.

You can also update the settings defined on the **Columns**, **Filters**, **Group By**, **Sort By**, and **Conditional Formatting** tabs as described earlier.

Note

If you remove the view permission for a user, the user's filter conditions in the view are not automatically updated. The user will need to edit and save their view to see the changes in the view definition. Ensure you notify the user to update their cost sheet filters accordingly.

Functionality within Cost Sheet Views

In the **Default** view, you can perform any of the actions listed below:

- Drag and drop columns
- Rearrange column order
- Select a column header to change the **Sort By** column
- Right-click a column header to choose the **Lock after this column** option

When you perform any of the above actions, the prefix of the view name becomes **Modified**. The **Edit View** option is disabled. Therefore, you cannot save the **Modified** view.

The remaining *gear menu* () for the rows and columns remain as they are in the Standard interface of the cost sheet. All the toolbar options remain as they are in the Standard interface of the cost sheet. You must save any modifications that were made to the **Default** view without changing the view name to **Modified**.

In a manually created view, you cannot perform any of the actions listed below:

- Manage rows
- Add columns
- All Menu actions
 - The only exceptions are Row Coloring in the case of a Tree structure cost sheet and Import and Export options for both Flat and Tree structure of the cost sheet.
 - * Import options: This has the submenu option 'Column Details' using which customer can choose a column from the view and import data into it. The import action allows import into all leaf rows of the cost sheet and not just the ones present within the view.
 - * Export options: Same as above, this has a submenu option 'Column Details'. Use this option to select the column from which data should be exported. After it is chosen, the customer can export of column data. This exports data from all leaf rows from the cost sheet and not just the ones present within the view.
- All *gear menu* () actions
- All Column Menu actions

When you select a value in any of the cost sheet cells, the **General** tab in the right pane is displayed as read-only.

You can drag and drop columns to any place on the cost sheet. When this action is performed, the prefix of the view name becomes **Modified**. However, in the case of a manually created view, you can select **Edit View** and ultimately choose **Cancel**, **Save**, or **Save As** after making modifications in the **Columns**, **Filters**, **Group By**, or **Sort By** tabs.

After the **View** drop-down, there are many available options from the Standard interface of the cost sheet, including: **Refresh**, **Print**, **Find on Page**, **Expand/Collapse**, **Menu Options—Row Coloring**, and **Currency**. If you change the Row Coloring or the Currency of the cost sheet, these changes are not saved to the view.

The **Group By** options that are within the view definition are visible as a grouping section with the appropriate rows grouped in it. Each group, along with its appropriate rows, displays an additional column that shows the group's name before the **Cost Code** column. There is no column header for this grouping column.

When a **Group By** option applies to the view, the group's summary row displays the summary value that is based on the **Total** option in the column's properties.

A special case for creating views is the addition of a few columns. After creating a view, your administrator can take away your permissions to the columns that you added. When you try to open the view, those columns are no longer visible. The **Edit View** window does not show the columns in the **Selected Columns** section nor the **Available Columns** section.

Menu Options in Worksheet

A typical **Cost Sheet** log (go to the shell tab, and switch to **User** mode; in the left Navigator, select **Cost Manager**, and then select **Cost Sheet**) has the following types of sheets when you switch the view of the log from default to another type of view (**View**, and then select **Group by Type**):

- **Cost Sheet**
- **Work Package**
- **Worksheet**

In the **Group by Type** view, the records are grouped under each category.

When you open the project cost sheet (**Cost Sheet**), when it is locked, you can use the **Menu Options** (☰) to perform the following actions for the project cost sheet:

- **Import** - Column Details
- **Export** - Column Details
- **Row Coloring** - Multi-Color and Single-Color

The **Menu Options** (☰) and submenu options are not available for work package (**Work Package**) records.

When you open a worksheet (**Worksheet**), you can use the **Menu Options** (☰) to perform the following actions for the worksheet:

Note

The view of the worksheet can be **Default**.

- **Import** - Column Details
- **Export** - Summary Work Sheet and Column Details
- **Columns** - Copy Column Data
- **Snapshots** - Create, Open, and Enable Auto Snapshot
- **Currency** - Project Currency and Base Currency

- **Row Coloring** - Multi-Color and Single-Color
- **Properties**
- **Audit Log**

Columns Tab in the New View Window

The sections under the **Columns** tab are: **Available Columns**, **Selected Columns**, **Left Lock after Column**, and **Right Lock after Column**.

In addition to the previous sections, there are three options located after the **Selected Columns** section: **Group Management**, **Group Selected Columns**, and **Delete Group**.

For a new view, the **Available Columns** section displays a list of all the columns from the **Default** view. **Cost Code** and **Cost Name** columns are not available in the list because they are part of all views by default. The columns that you have view restrictions for are also not available in the list.

The Cost columns listed under **Available Column** are grouped as **CBS Attributes** and **Sheet Columns**.

The **CBS Attributes** block items are sorted alphabetically.

In the case of a new view, the list in the **Selected Columns** section contains the **Cost Code** and **Cost Name** columns. You can select one or more columns from the **Available Columns** list and move those columns to the **Selected Columns** list.

Note

If you select **Save** without choosing a column from the **Available Columns** list, a view with **Cost Code** and **Cost Name** columns is created.

When you select multiple columns in the **Selected Columns** list and then select **Group Selected Columns** , you are prompted to enter a name for the new column group. The maximum character limit for a group name is 255 characters.

You can select two or more selected columns and group them under a new name, or you can create a column group first and then add columns to it.

The groups:

- Display with a distinct color in custom views.
- Only exist within the view in which they were created.

You cannot create a group just once and then use it within multiple views.

Upon choosing the **Group Management** option, a new window that shows the created groups as tabs is displayed. You can update the **Group Title** for each group, but know that the **Group Title** is a required field. Along with the lists of **Available Columns** and **Selected Columns in the Group**, there are also two checkboxes. You can select the **Show last column when group collapsed** checkbox as well as the **Collapse group by default** checkbox.

The **Available Columns** list displays the columns that exist in the default view of the cost sheet. One or more columns can be selected from the **Available Columns** list and moved to the **Selected Columns in the Group** list. Columns that are part of another group are italicized.

Each group must contain at least one column, as empty groups are not retained. You can re-order the columns in a group by selecting any of the arrow options.

After you create a group, the group is displayed in the **Selected Columns** section of the previous window with a **Column Tree** icon  and the group name. This group name contains a hyperlink that takes you to the **Group Management** window and selects the previously selected column.

All changes are saved upon selecting the **Save** option.

If you choose a column in the **Left Lock after column** drop-down list, the list for **Right Lock after column** displays the remaining columns and, if applicable, any groups that you created, from the **Selected Columns** list. For example, if there are 20 columns in the **Selected Columns** list and you choose column 4 in **Left Lock after column**, **Right Lock after column** displays columns 4-19. Another scenario is if you select column 19 in **Left Lock after column**, **Right Lock after column** displays column 19.

The **Left Lock after column** drop-down list initially displays every column from the **Selected Columns** list, except for the last column and any groups that you created. **None** is selected in the drop-down list by default. When **None** is the value in the drop-down list, it means that no column has been chosen to be locked from the left side of the sheet.

For the **Right lock after column** drop-down list, **None** is selected by default. When **None** is the value in the drop-down list, it means that a right lock column has not been chosen for the view. The remaining values in the drop-down list consist of a dynamic list that gets populated based on the value chosen in the **Left Lock after column** drop-down list.

Filters Tab in the New View Window

For both Tree and Flat Structure cost sheets, there are three sections in the **Data Element** drop-down list on the **Filters** tab: **Cost Code segments**, **CBS Attributes**, and **Sheet Columns**. The **Cost Code segments** section displays each cost code segment as an attribute that can be used to apply filters to the cost sheet. The **CBS Attributes** section displays all “uuu” data elements (DEs), including hidden blocks but excluding Data Picker DEs and Multi Select DEs, defined for the cost breakdown structure (CBS) Attributes form in uDesigner. The **Sheet Columns** section displays all columns from the cost sheet in order.

Note

- Picker DEs and multiple-select input fields *cannot* be added as filters.
- The system only applies filters to leaf-level codes within the cost sheet. The summary cost codes do not show up in the filter results.
- Hidden, restricted, and deleted fields are *not* shown.

To create a filter:

1. Select **Add Filter**.
2. Do the following:
 - a. Choose a **Data Element**.
 - b. Choose a **Condition**: This drop-down list displays a list of conditions. This list is based on the type of data element (DE) selected. See [Condition options](#).

- c. Choose a **Value**: Depending on the type of DE, choose a value that the query condition must meet.
 - **Data Element**: Lists the DEs on the Cost Code Attribute Form.
 - **Constant Value**: You can enter a full or partial entry of the value to filter by. This is similar to entering search criteria.

Note

The default value for an integer drop-down list is 0. Therefore, the integer list can be used as a CBS attribute DE and defined as a filter with the criteria **is not empty**, which will result in the display of data with the default value.

- 3. To add additional filters, select **Add Filter** again, and repeat the preceding steps. You can use the same data element multiple times.
- 4. If you are using multiple filters, select the applicable operator that should apply to the set:
 - **And**: To specify that the view must match all listed filters, select **And**.
 - **Or**: To specify that the view should match any of the listed filters, select **Or**.

Group By Tab in the New View Window

Use the **Group By** tab to group rows in the Cost Sheet. The drop-down field in the **Group By** tab contains a list of columns that the user can see in the Cost Sheet, such as the cost code and cost item, as well as items from the Cost Attribute Form.

Sort By Tab in the New View Window

In the **Sort By** tab, all the columns from the default cost sheet are available, as well as items from the Cost Attribute Form.

Conditional Formatting Tab in the New View Window

In addition to using the **Filters** tab to create views that display specific data, you can use the **Conditional Formatting** tab to format columns based on specific conditions. This feature helps you visually identify rows within the column that match specific criteria. You can use different formats, such as background fill, font color, icons, and data bar, to customize the visual identification. You can format up to 10 columns in a sheet and use up to 5 format conditions for each column.

You can also apply conditional formats at the cell level, which lets you identify amounts or decimal-based values that match specific conditions. For example, you can use conditions to highlight amounts where the Total Cost Incurred is greater than the Forecasted amount for specific cost codes. By using a condition such as Background Fill & Color, you can access your custom view and immediately identify where total costs have exceeded what was expected (forecasted). Or you might want to highlight approved contracts that exceed \$500,000 or are valued at less than \$50,000, which lets you visually identify the approved contracts with high or low (or both) values.

When creating conditions, be aware of the following:

- You can only apply conditions to columns and fields that you have permission to access. Hidden, restricted, and deleted columns are *not* shown. If a column becomes available

after you create a view and set up conditional formatting, you must update the view to add the previously restricted or hidden column.

- If a column that you can view when you create a condition subsequently becomes hidden or restricted, or is deleted, the system automatically updates the information shown to you when you select the view or its settings. Similarly, if the column becomes visible to you again because it is no longer hidden or restricted, the system automatically updates your customized view and settings. However, if you update and the customized settings *before* the column display is reinstated, the system permanently removes the applicable column from the customized view; you must manually update the view to add it.
- If multiple conditions of a column are true, the conditions are applied in the order in which you created and applied them; that is, the condition that you specified first is applied first, and so on.
- If none of the conditions are met, the display of the Cost Sheet remains unchanged; no message is displayed that indicates no conditions were met.
- If you intend to print the Cost Sheet or export it to Microsoft Excel:
 - You must enable support for background graphics in your browser before printing the sheet.
 - Formatting is not retained during an export to Microsoft Excel, so viewing the conditions in Excel is not supported.

To create a condition:

1. Select **+ Add Column**.
2. Select a **Column**.
The list contains all columns available to you in the Default view. Hidden, restricted, and deleted columns are *not* shown. Conditional Formatting is applied to the selected column.
3. Select a **Format Type**.
4. Select **Add Format Condition** (the plus [+] sign) to specify the elements for which you want to use different formatting.
5. Do the following:
 - a. Choose a **Data Element**. This list contains all columns available to you in the Default view. Restricted and hidden columns are not listed. The validation process to determine whether the condition is met is processed on the selected column.
 - b. Choose a **Condition**. The conditions listed are based on the type of data element (DE) selected. See [Condition options](#).
 - c. Choose a **Value**. Depending on the type of DE, choose a value that the query condition must meet. If you chose a **Condition** such as **is empty**, the **Value** field does not apply.
 - d. Choose a **Format**. The options in this list depend on the selected **Format Type**.
 - If you chose **Background Fill & Color** or **Font Color**, select the applicable color. The listed colors are the only options available; they cannot be customized for use.
 - If you chose **Data Bar**, Format displays a read-only Data Bar selection. Data Bar assumes that the associated Column contains numeric values, including negative values. A Data Bar is not displayed for summary records or totals. After the Conditional Format is applied, the selected Column is replaced with data bars whose length is proportional to the percentage value with regard to the maximum value. The values are printed inside their respective bars. Negative values are represented by red bars.

- If you chose **Icon Set**, Format displays a read-only Icon Set selection that uses a fixed representation. Positive values are reflected by a green Up Arrow, negative values by a red Down Arrow, and zero values by a yellow Horizontal Arrow.

Note

Because you can create multiple conditions for the same column, conditions are applied in the order in which you create them; after the first condition is satisfied, the remaining conditions are ignored.

6. To add additional columns, select **Add Column** again, and repeat the preceding steps.

Condition Options

The following is a list of the available **Condition** options that you can use in the **Filters** tab and the **Conditional Formatting** tab:

- contains
- does not contain
- equals
- does not equal
- is empty
- is not empty

White spaces (blank characters):

- **Filters tab:** All leading and trailing white spaces (blank characters) are included in the condition; that is, they are *not* trimmed.
- **Conditional Formatting tab:** When you use any of these options on the Conditional Formatting tab, all leading and trailing white spaces are excluded; that is, they *are* trimmed.

Case sensitivity: When you use **equals** or **does not equal**, the results *are* case sensitive.

Open a Project or Shell Cost Sheet

The ability to open, view, enter data, work with the column structure, or modify properties on a cost sheet is dependent upon the permissions that you have. Contact your project or company administrator if you have questions regarding your permission levels.

Note

When you first open the sheet, the view depends on the **Default View** option selected in the Properties window. Your cost sheet administrator can set this default view. Cost sheets can be resized and split/unsplit (see [Resize cost sheet window](#) or [Split or unsplit cost sheet window](#)).

To open a project/shell cost sheet:

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet** to open the **Cost Sheet** log.
3. To open the applicable Cost Sheet, select it, and select **Open** from the *gear menu* (⚙️). The applicable Cost Sheet opens. For more information about the options available, see [Project or Shell Cost Sheet](#).

Cost Sheet Restrictions

Your Administrator can configure cost sheet restrictions to restrict users or groups from viewing or editing columns within a cost sheet. The behavior of these restrictions depends upon the Company-level Global setting **Override column restrictions**.

The following feature applies to the following cost sheets:

- Company-level
- Shell-level
- Project-level

For each type of cost sheet, the user's corresponding groups must be considered (company level and project/shell level) for the column restrictions.

If the option **Override column restrictions** is *not selected*, then:

If the user belongs to a group which does not allow editing or viewing a column in the cost sheet (or a user is individually restricted), the user will be restricted from editing or viewing a column in the cost sheet.

If the option **Override column restrictions** is *selected*, then:

It allows user to view or edit a cost sheet column if any of the restricted groups or the individual user is allowed to view or edit the column.

Note

If you remove the view permission for a user, the user's filter conditions in the view are not automatically updated. The user will need to edit and save their view to see the changes in the view definition. Ensure you notify the user to update their cost sheet filters accordingly.

For more information on Cost Sheet column behavior when the checkbox is selected, consider the following scenarios:

For all the groups that are configured for restrictions on a cost sheet column, if all the groups to which a user belongs are restricted from viewing or editing the column and if the user is individually configured and restricted to view or edit that column, the user will be restricted from viewing that column.

If the user (who is configured for restrictions in the cost sheet) is not restricted from viewing or editing the column, or if the user belongs to a group that is not restricted from viewing or editing the column, the user is not restricted from viewing or editing that column.

If the user does not belong to any groups that are configured for restrictions on a column in the cost sheet, and the user is not configured individually for restrictions in the cost sheet, the user is not restricted from viewing or editing the column.

For the user to view a cost sheet column, the user must have **View** permission for the cost sheet. If the user does not have **View** permission for the cost sheet, the user cannot view the cost sheet columns even if the user belongs to a group that is configured to view the cost sheet columns.

When you select or deselect the **Override column restrictions** option and save the change, the system approves the change immediately, and you do not need to sign out and sign back in.

Resize cost sheet window

The cost sheet window can be resized by selecting the **Minimize** or **Maximize/Restore** buttons in the upper-right corner of the window, or by dragging the edges of the window to the size that you need.

Split or unsplit cost sheet window

When working with a cost sheet with many columns, it can be useful to split the window using the **Split** and **Freeze** toggle buttons. This lets you scroll through the columns in the right half of the window, while maintaining a view of the CBS Code and CBS Item columns in the left half.

To display the cost sheet in split window mode:

1. In the cost sheet window, select the **Split** button. The sheet is split into two sections.
2. Select the vertical split line, and move it horizontally to adjust the size of the panes, if desired.
3. Use the scroll bars at the bottom of the window to scroll horizontally through the columns. When you have the left portion of the window in the position you want (for example, to view the CBS Code or CBS Item column), select **Freeze** to lock it in place.
4. Scroll through the columns in the right half of the window to view or enter data as necessary.
5. Select **Freeze** again to unlock the left half, or select **Split** again to restore the window.

Entering Data into a Cost Sheet

The following topics describe how to enter data into a cost sheet.

Add a Line Item to a Project or Shell Cost Sheet

A cost sheet column may be defined for manual data entry, depending on the column definition:

- **Manual, line item content:** The data is entered in a line item format, allowing multiple line item entries per cell. The total is displayed in the cell.
- **Manual, direct entry:** Numeric values are entered directly into the cell.

To add a line item to a project/shell cost sheet:

1. From the project/shell Cost Sheet window, select the link in the line item cell. The Cell Detail window opens.
2. Select **Add**. The Line Item window opens.
3. Complete the Line Item window as described in the following table.

4. Select **OK**. The new line item will be added to the Cell Detail window.

In this field	Do this
Short Description	This description will appear on the Cell Detail window.
Long Description	Optional, to provide more information.
Work Package	Select a work package, if any, with which to associate the line item.
Spend Category	Select a spend category if this has been set up to be tracked.
Quantity	Enter a quantity (at least 1) as applicable.
Unit of Measure	Select the appropriate choice from the list.
Unit Cost	Enter this manually.
Amount	Automatically calculated as Quantity X Unit Cost.
Delete Line Item	Select this button to delete the line item from the Cell Detail window.

 Note

For budget-related columns (for example, Assigned Budget), you can enter line item data if the undistributed balance is at least as large as the line item amount. The undistributed balance will adjust as line items are added, displaying the budget amount left.

To add a line item cost entry by copying an existing line item:

1. In the project/shell Cost Sheet window, select the link in the line item cell. The Cell Detail window opens. Any existing line items will be listed in the lower portion of the window.
2. Select the line item to copy, and select **Copy Line Item**. The Line Item window opens with the original line item entry information filled in.
3. Make changes as necessary for the new entry, or leave as is to make an exact copy of the original line item.
4. Select **OK**. The new line item will be added to the Cell Detail window.

Enter data directly into a cell

Some manual entry cells are configured for direct entry, rather than line item entry. Data entry cells do not have links.

To enter data into direct entry cells:

1. Click inside the cell. The cell becomes editable.
2. Enter the numeric value directly into the cell.

 Note

For percentage type direct cell entry columns, you can enter a value greater than 100%.

Copy data from one column to another

You can copy the data from any manual entry column to another.

To add line items by copying existing data from one column to another:

1. Open the project/shell Cost Sheet window.
2. From the toolbar, select **Edit**, select **Copy**, and then select **Column Data**. The Copy Column Data window opens.
3. Complete the Copy Column Data window as described in the table below.
4. Select **Copy**. The data in the first column will be copied into the second column.

In this field	Do this
Copy type	Choose one of the following: • Cell total only: Copies the total value displayed in the cell. The new line item will be labeled as "Copy of <i>original column name</i>," ignoring quantity and unit cost. • Cell detail: Copies all cell detail information from the original line item.
Copy from column	From the drop-down list, select the column to copy. Only line item entry columns will be listed.
Percentage	You may enter a percentage value to copy. For example, if you choose 10%, then 10% of the value of the original column value will be copied into the new column.
Copy to column	From the drop-down list, select the column into which you want the line items copied
Rows	Choose one of the following from which you want to copy the values: • All: To copy values to all the rows. • Partial: To copy the values of selected rows only. Click Select to choose the rows to copy.

View column properties

To view column properties:

Select the column heading. All column headings except the first two (CBS Details and CBS Item) are hyperlinks that open the View Column window. The window shows information about the column, such as the data source, entry method or formula, data format, and format of the last total row.

Change cost sheet currency

You can view cost sheet data in the company base currency or the project/shell currency, which may differ.

Note

This is also applicable to work packages and worksheets.

To choose the display currency on a cost sheet or worksheet:

1. Open the project/shell Cost Sheet or worksheet window.
2. From the **Edit** menu, select **Currency**, and choose the currency from the list.

To choose the display currency on a work package:

1. Open the work package window.
2. Select the currency drop-down list in the upper-right corner of the sheet, and choose the currency from the list.

Expand or collapse CBS codes

You can expand or collapse all CBS codes in a cost sheet. If you have many CBS codes in a tree structure, you can expand that structure to view all the CBS codes at once.

To expand or collapse CBS codes in a cost sheet:

1. Open the project/shell Cost Sheet or worksheet window.
2. From the toolbar, select **View**, and select **Expand** to expand all the CBS codes in the cost sheet or select **Collapse** to collapse all the CBS codes in the cost sheet. Alternatively, you can select the **Expand** and **Collapse** buttons.

View cost sheet cell details

The values displayed in a cost sheet cell may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a cost sheet cell.

To open the Cell Detail window:

In the project/shell Cost Sheet dialog, select the link of the cost code. The Cell Detail tab in the right pane displays the contents of the Cost Attribute Form.

Note

If the data elements in the Cost Attribute Form have tooltips, they will appear in the form of a question mark (?) symbol. You can hover over the question mark (?) symbol to see more information.

To view manual line item entry details:

From the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details:

1. From the Cell Detail window, double-click a listed line item. A copy of the business process transaction opens. In here, you can view or act on the BP transaction.

2. Double-click a BP line item. The BP's Line Item window opens.

To view formula cell details:

1. In the Cell Detail window, if line items from manual entry columns or BP transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

Note

In the Forecasts and Forecasts (Unaccepted) columns, if data sources are from a business process enabled for costs sheet forecasting, the Cell Detail window contains an Include in Forecast button.

2. Select a listed line item. If the line item is a BP transaction, the BP form opens. If the line item is a manual entry, the Line Item window opens.
3. To view the formula used for the column, select the **Formula** link.

To view budget cell details:

The Cell Detail window displays as line items information generated from the budget, as applicable. Typical budget columns include assigned budget. The undistributed balance amount will be displayed as a line item. You may add line items if the undistributed balance is at least as large as the line item amount.

This item	Does this
Attach	Lets you attach files to the cell from your local machine (My Computer) or from the Document Manager. You can view existing file attachments by selecting the Attachments link in the upper portion of the window.
Add Notes	Select to add a note to the cell. You can view existing notes by selecting the Notes link in the upper portion of the window.
Add	Select to add a line item (transaction) to the cost sheet (applicable for manual transaction columns).
Remove	Lets you remove a selected line item.
Copy	Adds a line item by copying an existing one.
View Menu, and then select Audit Log	Opens the Audit Log for the cell. The log displays a record of the activity for cells using line item data entry.

To open a workflow BP record from cost sheet:

For a workflow BP, you can:

- Accept a task if the BP record is not in the end-step.
- Modify the BP record and route it to the next step. The cost sheet will be refreshed if the record is routed to next step. If you edit the BP record and save it, the system saves a draft.

To open a non-workflow BP record from cost sheet:

You can open and act on a non-workflow BP record if you have Edit permission. If the BP record is in non-edit mode, the Edit option is available.

If you do not have Edit permission, you can only view the BP record.

If you do not have View permission, the system will display the message, "You do not have permission to view record."

To open a BP record from cost sheet (Record Editors or Step Editors):

When the BP record editor, or step editor, opens the BP record from cost sheet, the editor can update the BP record if the BP record is in accepted state and the editor has View permissions to view the BP record.

Upon opening the record, the editor will only see the Save option. The editor can edit the BP record but cannot route the BP record to the next step or submit the BP record.

Add Notes or Attachments to a Cell

You can add notes or attach files to any cell in the cost sheet. Files can be uploaded from your local environment (My Computer) or from the Document Manager.

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager
- Business processes (BPs)
- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact. Depending on the location of the infected file, the system might display a bug icon  (if the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).
- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later. For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.

- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

To access cell detail notes and attachments:

1. In the Cost Sheet window, select in any cell that displays as a link (line item entry, formula, or automatic entry from a BP). The Cell Detail window opens.
2. You can add a note, view existing notes, add a file attachment, or view attached files.

To add notes to a cell:

1. In the Cell Detail window, select **Add Notes**. The Add Notes window opens.
2. Type the note in the text box, and select **OK**. Each time you add a new note, the **Notes counter** in the Cell Detail window updates to reflect the number of notes that exist for the cell.

To view notes attached to a cell:

1. If any notes have been added to the cell, the **Notes** link on the Cell Detail window will display the number of notes.
2. Select the **Notes** link. The Notes List opens, displaying all the notes that have been added. Each note displays the user who added the note, and the date and time it was added.

To modify or delete cell detail notes:

Notes added to a cost sheet cell cannot be modified or deleted.

To attach files to a cell:

In the Cell Detail window, select **Attach**, and choose:

- **My Computer** to attach the file from your local system. The procedure is the same as for uploading files to the Document Manager. For rules on attaching files, see Attaching Files.
- **Primavera Unifier Folder** to attach documents from the Document Manager. The window opens, displaying the project/shell documents files and folders. Select the files and folders to attach and click **OK**.

Note

Folders are not attached. The contents of selected folders are attached in a flat list. Documents with duplicate file names will not attach.

To view attached files:

1. If any files have been attached to the cell, the **Attachments** link on the Cell Detail window will display the number of attached files.
2. Select the **Attachments** link. The Attachments window opens.
3. Choose a file, and select **Open**. The document will open in the viewer selected in your user preferences.

To delete an attached file:

1. In the Cell Detail window, select the **Attachments** link to open the Attachments window.
2. Select the file to be deleted, and select **Delete**.

To download a copy of an attached file:

1. In the Cell Detail window, select the **Attachments** link to open the Attachments window.
2. Select the file to be downloaded, and select **Download**.
3. Browse to a location on your local system, and select **OK**. Select **Yes** to confirm.

Search for CBS codes (rows)

You can search for a particular cost code by searching for one or multiple segments.

To search for a cost code:

1. In the Cost Sheet window, select **Find**. The Cost Code Find window opens.
2. Select the cost code segments you want to search by, and select **OK**.
The results will be shown in a separate cost sheet window. The new window also has split capability so that you can keep the CBS code in view and scroll through the columns.

Edit cost sheet data

The following procedures discuss how to modify cost sheet data. Manually entered cost sheet data can be edited or modified directly from the cost sheet (assuming you have modify permissions).

Cost sheet entries rolled up from transaction BPs or calculated in formula columns are not editable. Data rolled up through business processes can only be modified by submitting business processes such as change orders. Formula column cells will reflect changes made to other column data used in the calculations.

To edit direct entry data:

1. In the project/shell Cost Sheet window, select inside the cell to edit. The cell becomes editable.
2. Enter the new value.

To edit line item data:

1. In the project/shell Cost Sheet window, select the link in the cell to edit. The Cell Detail window opens. Line items are listed in the lower portion of the window.
2. Double-click the line item to edit. The Line Item window opens.
3. Edit the Line Item window as needed.
4. Select **OK** to save changes and close the Line Item window.

To delete a line item:

1. From the project/shell Cost Sheet window, select the link in the cell in which to delete the line item. The Cell Detail window opens.
2. Do one of the following:
 - Select the line item to delete, and select **Remove**. The line item is deleted.
 - Double-click the line item to open the Line Item window. Select **Delete**.
3. Select **Yes** to confirm.

To edit or delete data rolled up from a business process:

Cost sheet data originating from a business process cannot be edited from the cost sheet.

Data must be edited in the business process record if it is still active or through an appropriate change BP, such as a change order.

To edit or delete data calculated in a formula column:

Formula column cells will reflect changes made to other column data used in the calculations. Select the column heading to view the formula and display the cost sheet columns used in the calculation. This will help you determine whether to edit the formula, the data on another column, or other source.

Create, schedule, or view Cost Sheet snapshots

You can manually create a snapshot (a read-only view) of the project/shell cost sheet and worksheets. You can also schedule the creation of snapshots on a weekly, monthly, quarterly, or annual basis, which you might use based on specific conditions, such as before approval of each Budget Change business process (BP) record or using conditional formatting of forecasts that you can then compare to earlier forecasts.

Using the Snapshot Log, you can view, print, export, and search the list of snapshots. You can also open an existing snapshot and display it in both project and transaction currencies. You cannot delete a snapshot.

To create (save) a manual snapshot of the cost sheet or worksheet:

1. Open the cost sheet or work sheet.
2. From the toolbar, select **Menu Options** (), select **Snapshots**, and then select **Create**.
3. In the **Create Snapshot** dialog box, enter a **Title**, and select **Create**.

To schedule snapshots of the cost sheet or worksheet:

1. Open the cost sheet or work sheet.
2. From the toolbar, select **Menu Options** (), select **Snapshots**, and then select **Enable Auto Snapshot**.
3. In the **Schedule Snapshot** dialog box, select the **Enable Auto Snapshot** checkbox if you are ready to start using the automated snapshot schedule immediately after creation. You can create the schedule and enable or disable it at any time.
4. From the **Select Snapshot Frequency** list, select the applicable option (Monthly is selected by default) and then complete the corresponding steps.
 - If you select **Weekly**, select the day of the week.
 - If you select **Monthly**, select:

- **Day**, and specify a date from 1 through 31. For months that have fewer than 31 days, the system automatically adjusts the schedule depending on the month.
- **The**, and select First, Second, Third, or Fourth, and then select the day of the week.
- If you select **Quarterly**, specify a Day from 1 through 90. Quarters are based on the calendar year.
- If you select **Yearly**, specify a Day from 1 through 365.

Note

The system generates Actuals information at the start of the day and uses it to update the Forecast information. Therefore, on the last day of an Auto Snapshot (the cutoff date), the Forecast does not include changes that might have occurred between the generation of the Actuals and the generation of the Forecast and the system might prevent you from updating Actuals information on the last day of the cycle.

5. In the **Range of Occurrence** section, specify the **Start Date** (required) and **End Date** (optional).
6. If you want the system to update the Prior Forecast column in the sheet after each snapshot, select the **Update Prior Forecasts** checkbox.
If you do not select the Enable Auto Snapshot checkbox or if you clear it later, the Update Prior Forecasts checkbox is disabled (dimmed).

7. To create the scheduled snapshot, select **Save**.

To view a snapshot:

1. Open the cost sheet, work package, or worksheet.
2. From the toolbar, select **Menu Options** (≡), select **Snapshots**, and then select **Open**.
3. In the **Snapshot Log**, locate and double-click the applicable snapshot to view it.
You can also refresh the list of items in the log, print it, export it to a Microsoft Excel or CSV file, or search for a specific snapshot.

A non-editable view of the cost sheet or worksheet opens, displaying the sheet at the time the snapshot was taken. You can use the toolbar options to print the log, export it to a Microsoft Excel or CSV file, or search for specific information, such as a cost code.

Importing and Exporting Cost Sheet Data

You can import CBS detail information into a cost sheet manual entry column from a comma-delimited-value (CSV) file, such as a Microsoft Excel spreadsheet saved in CSV format.

Note

For information about internationalization and CSV files, see Internationalization and CSV Files.

To import project/shell cost sheet information:

1. In the project/shell cost sheet, select **File**, select **Import**, and then choose one of the following:
 - **Summary Budget:**
Summarizes the budget information.
 - **CBS Details:**
Lists CBS codes and CBS details information for each.
 - **Column Details:**
Summarizes column details for specific columns.

For a project level cost sheet, the following columns are available for import/export:

 - Assigned Budget
 - Yet To Buy
 - AFC
 - Project Cost 1 to Project Cost 100, for columns where the Entry Method is set to Manual Entry for either Direct entry into cell or Line Item content (either visible or hidden)
2. Browse to the CSV file to import, select it, and select **OK**.
Note the following:

Import Option	Rules
Summary Budget	The following rules apply when importing into the cost sheet: - Negative numbers are not allowed for budget distribution amount. - There is no check on import whether the total capital or expense budget was exceeded. After the import is completed, return to the Budget Distribution page and save and lock the budget. After the budget is locked, the system performs the necessary check to determine if the total capital or expense budget has exceeded the original budget.
CBS Details	The following rules apply to the CBS details when importing into the cost sheet: - CBS details are updated, and new, valid CBS details are added in the order specified in the CSV file. - The complete CBS code, including the parent code, must be valid and in the correct order in the CSV file.
Column Details	The following rules apply to the column details when importing into the cost sheet: - This selection adds a column to the cost sheet and is usually done as part of the administration of the cost sheet. - For the Assigned Budget (or Budget Remaining Balance) column and Manual Entry column, all the existing budget line items are deleted and replaced with the new budget line items defined in the CSV file, even if the CSV file only provides a partial list of CBS codes. - Values in the Distributed Budget column are for reference only.

After you have constructed the cost sheet and distributed the budget, you can export specific cost sheet information, saving it to a local file system in a comma-separated-value (CSV) format.

To export project/shell cost sheet data:

1. In the project/shell cost sheet, select **File**, select **Export**, and then choose one of the following options.
 - **Summary Cost Sheet:** Creates a summary of all rows, columns, and data on the cost sheet.
 - **Summary Budget:** Creates a summary of the budget window information.
 - **CBS Details:** Lists all the CBS codes on the cost sheet and the CBS details information for each.
 - **Column Details:** Creates a summary of column details for the selected column. For a project level cost sheet, the following columns are available for import/export:
 - Assigned Budget
 - Yet To Buy
 - AFC
 - Project Cost 1 to Project Cost 100, for columns where the Entry Method is set to Manual Entry for either Direct entry into cell or Line Item content (either visible or hidden)

The Summary Cost Sheet option only supports saving the structure for reference purposes. The other three exported files can be modified and then imported into a new or existing project/shell cost sheet.

2. Read the confirmation message, and select **Yes** to continue. You can open the file in a compatible program, such as Microsoft Excel, to review it before saving.
3. Select **Save**, and specify the location in which to save the CSV file.

Note

If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for re-importing into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.

You can create Cost Based Structure (CBS) Codes in Cost Sheets.

Importing Cost Sheet Data from P6

P6 Schedule contains CBS Structure, or Codes, and sends the CBS codes to Unifier Cost Sheet CBS Codes, also called CBS Codes.

- If you select to use, or run, the Synchronization "Create CBS in Unifier Cost Sheet" within the Gateway, the Unifier Cost Sheet within the integrated Unifier Projects receive the CBS Codes created via integration.
- If the Cost Sheet contains preexisting CBS Codes, or contains no Cost Codes, you can choose to run the Synchronization to create CBS Codes in Unifier, via integration.

CBS Codes created in P6 have "imported" root to Leaf Structure and are not under any hierarchy that has been created manually. An "imported" Leaf CBS Code appears under "imported" root and non-root Summary CBS Codes; however, you can create "manual" Leaf CBS Codes under "imported" Summary CBS Codes.

Note

- When you are creating Summary CBS Codes by using a CSV file, ensure that you select the corresponding "Exposed to P6" correctly.
- When you are creating Summary CBS Codes by using Web Services, the "Exposed to P6" option remains unselected.
- If you hide a parent Summary CBS Code, all the corresponding children will be hidden.
- If you do not select a Summary CBS Code, the corresponding Leaf codes will remain unselected.
- If you select one Leaf code, the corresponding parent Summary CBS Code will be selected.
- If you hide a Leaf code, the hidden Leaf code remains hidden in P6 CBS picker, but the Summary CBS Codes stay as they were.

About Synchronization methods

Note

The Synchronization Methods are defined in P6 and not Unifier.

Complete:

When Synchronization Method = Complete, P6 sends *all* CBS levels/codes to Unifier via Gateway.

The application receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within the Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in the corresponding Cost Sheet, Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

- One Summary CBS code
- One dummy Leaf CBS Code under the Summary CBS code

Levels:

When Synchronization Method = Levels, P6 sends *selected* CBS levels/codes to Unifier via Gateway. The selected CBS levels/codes are the codes that are up to a defined number of levels within the P6 Schedule. The remaining CBS codes are not sent.

Unifier receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within the Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in the corresponding Cost Sheet, Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

- One Summary CBS code
- One dummy Leaf CBS Code under the Summary CBS code

Partial:

When Synchronization Method = Partial, P6 sends selected CBS levels/codes to Unifier via Gateway. The selected CBS levels/codes are the codes that are selected as "Integrated." The remaining CBS codes are not sent.

Unifier receives the attributes for each CBS and uses the "Default" value of each Cost Segment to create Cost Codes within the Cost Sheet.

If the number of CBS levels in P6 Schedule is fewer than the number of Cost Segments in the corresponding Cost Sheet, Unifier creates two CBS Codes for each lowest level CBS code sent from P6:

- One Summary CBS code
- One dummy Leaf CBS Code under the Summary CBS code

Note

- You can switch between the synchronization methods at any point.
- When CBS codes are sent from P6 to Unifier, mark the codes as Imported from P6.

Defining the budget

After the project/shell cost sheet is defined, you can define the project/shell capital and expense budget amounts and begin distributing the budget to the various CBS accounts. Budgets are managed in the Budget Distribution window.

About budget and budget distribution

After the project/shell cost sheet is defined, you can define the project/shell capital and expense budget amounts and begin distributing the budget to the various CBS accounts. Budgets are managed in the Budget Distribution window.

Note

Users with module-level modify permission can lock and unlock the budget distribution. An exception to this is if Assigned Budget is one of the cost sheet columns, and the user has view restrictions on the column. If a user cannot view the Assigned Budget column, the Budget Distribution menu option is not available. In addition, the user cannot import a summary budget.

Open the Budget Distribution window

To open the Budget Distribution window:

1. Open the project/shell cost sheet.
2. Select **Edit**, and select **Budget Distribution**. The Budget Distribution window opens.
3. Use the information in the table below to enter budget information as necessary.
4. Select **OK** to save and exit.

Item	Description
Project or Shell Capital Budget	
Project or Shell Expense Budget	
Scope of Budget	
Comments	A text field for any budget-related comments.
Undistributed Capital Amount	
Undistributed Expense Amount	
Lock Date	If the budget is currently locked, the lock date displays.
Status	Shows if the budget is currently locked or unlocked.
Lock/Unlock Explanation (View)	Select the View link to open an audit log that lists the dates, times, and explanations for lock and unlock budget instances.
Project or Shell Currency	Displays the currency used in the project/shell. This may differ from the base currency.
Base Currency	Displays the base currency used for your company.
Exchange Rate	This is the calculation that is used to convert the base currency to the project/shell currency.
No. of Attachments	Displays the number of files, if any, attached to the budget window. Select the link to view or download.
Budget Distributed Amount	The lower part of the window displays each CBS code row that appears on the cost sheet. Enter the budget amount for each one. Selecting a CBS code link will open the CBS Detail window.
Attach	Select this button to attach files to the budget distribution window.
Save & Lock	This button is available if the budget is currently unlocked. Selecting it locks and distributes the budget. You will be prompted to provide an explanation for this action.
Unlock	This button is available if the budget is currently locked. Selecting it unlocks the budget to allow for modification to the budget window and cost sheet rows. You will be prompted to provide an explanation for this action.
Audit Log	This button accesses the audit log, which records budget activity.

Distribute and lock the budget

After the Budget Distribution window has been completed, you can distribute the budget and lock the budget.

To distribute and lock the budget:

1. Complete the Budget Distribution window.

2. Select **Apply** to save changes.
3. Select **Save & Lock**.
4. When prompted, enter an explanation for locking the budget, and then select **OK**.
5. Select **Close** to close the Budget Distribution window.

Unlock the budget

If the budget has been locked, you must unlock it to make any budget changes or certain cost sheet modifications, such as adding or modifying cost sheet rows.

To unlock the budget:

1. From the Budget Distribution window, select **Unlock**.
2. When prompted, enter an explanation for unlocking the budget, and then select **OK**.
3. Make edits to the budget or cost sheet as needed, and then save and lock the budget again.

Permission matrix for the Budget Distribution window

Assigned Budget			Budget Distribution				Import Summary Budget
Not Added	Added		Lock	Unlock	View	Edit	
X	X		Yes	Yes	Yes	Yes	Yes
	Restrictions (View)	Restrictions (Edit)					
	Yes		No	No	Yes	No	No
	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	No		No	No	No	No	No

Managing Project/Shell Cost Sheets and Properties

The ability to modify cost sheet rows, columns, or properties is dependent on your user permissions. Contact your project or company administrator regarding your permission levels.

View or edit cost sheet properties

Cost sheet properties include the name, description, structure definition (flat or tree), CBS code, CBS item titles, and switches for forecast details and forecast inclusion functionality.

Most properties are not editable in the cost sheet after it has been created. The exception is the **Default View**, which can be edited.

To open the cost sheet Properties window:

1. Open the cost sheet Properties window by doing one of the following:
 - Select the cost sheet from the log. From the toolbar, select **Properties**.
 - Open the cost sheet. Select **File**, and choose **Properties**.
2. The Properties window opens.

- The **General** tab displays the Title and Description and enables the administrator to set a Default View for when the cost sheet is opened from the log.
- The **Structure** tab displays the CBS Code segment and display structure used in the cost sheet. This information is view-only after the cost sheet has been created.
- The **Options** tab displays display and forecasting information used in the cost sheet. This information is also view-only after the cost sheet is created.

Working with Cost Sheet Forecasting

Cost sheet forecasting lets you manage the forecast process by detail line items. It utilizes cost-type base commits, change commits, or generic business processes that were included in the Forecasts (Unaccepted) formula.

Here is a high-level overview of the Cost sheet forecasting process.

1. When a forecast-enabled commitment routes to a terminal status it attains "Unaccepted" status, for example, Base Commits (Unaccepted).

Note

This is different from Base Commits (Approved) or any other routing status.

2. In this example Base Commits (Unaccepted) line items become available for inclusion in the cost sheet forecast.
3. When you select Forecasting, the Forecast Adjustment log opens, where you can see all unaccepted line items, based upon the formula used in the Forecasts (Unaccepted) column.
4. As these line items are accepted into the forecast, the unaccepted status changes to accepted, for example, Base Commits (Accepted).
5. Depending upon cost sheet configuration, for the amount accepted into the forecast:
 - Yet To Buy automatically decreases
 - Forecast (Unaccepted) decreases
 - Forecast increases

To accept line items into the forecast:

1. In the cost sheet, select **Forecast**. The Forecast Adjustment log opens.
2. Select the line items that you want to include in the forecast, and select **Include in Forecast**. Select either **All Line Items** or **Selected Line Items**. The Select Adjustment Option window opens.
3. In the Select Adjustment Option window you have three options. Your selection of an option controls how your cost sheet uses the Yet To Buy (YTB) and Allowance For Change data sources to construct the forecast. Option behavior is as follows:

Automatically adjust YTB

- The system automatically changes the line item to Accepted status, subtracts the amount from the YTB (or adds it if designed to do so), and includes the line item amount in the forecast, if configured to do so.
- Cell Details displays a line item for System Auto Adjustment that shows the transaction in the YTB column.

- Because the value of the YTB cannot become negative, each transaction will be processed individually. This may result in only certain transactions being processed and others staying at Unaccepted status. If the transaction was not processed because doing so would have yielded a negative YTB, the system will cause an alert. The unaccepted line items will be available to view in the Forecast Adjustment window.

Manually adjust YTB and AFC

- This option becomes available in the Cell Detail window when you select Include in Forecast.
- You can add, delete, or modify line items before including commits into the forecast.
- The system does not validate the entry or automatically update the YTB in the cost sheet.

No adjustment

- The system will automatically add the commitment into the forecast, if configured, and change the status to Accepted. It will not update the Yet To Buy or Allowance For Change columns.

Working with Yet to Buy (YTB) and Allowance for Change (AFC) data sources

Cost sheet forecasting is designed to leverage the YTB and AFC data sources. If your company's forecast process uses the YTB and AFC data sources, you can configure the system to reduce the YTB automatically as you accept commits into the forecast.

Example:

The Total Commits is at \$4,000, Yet To Buy is at \$2,000, Pending Forecasts (that is, Forecasts (Unaccepted)) is at \$2,000, and Forecasts is at \$2,000.

When the \$2,000 in the Pending Forecasts column is accepted into the Forecasts column, the Yet To Buy decreases by that amount. The Total Commits and Forecasts columns will read \$4,000, and the Yet To Buy and Pending Forecasts columns will read 0.00. The Yet To Buy value may never go below zero.

If designed to do so, the line item commitment may increase the YTB instead of reducing it. For example, if you have a change commit that adds scope to a project, when that change commit is approved you may want to add scope to the YTB.

If your company's forecast process does not use YTB or AFC, you may still use cost sheet forecasting. When the Yet To Buy column is added to the cost sheet, column details will show any actions previously taken with the YTB.

To adjust YTB and AFC manually:

1. Select the link in the cost sheet cell to open the Cell Detail window.
In any column built with the Forecast(Unaccepted) data source, the Cell Detail window will have an Include in Forecast button.
2. Select the line item in the Transactions log, and then select **Include in Forecast**.
The Select Adjustment Option window is now available.
3. Select **Manually adjust YTB and AFC**. The Forecast Adjustment window opens.
4. To include items in Transactions in the forecast:
 - a. Select a line item.
 - b. In the **Action** field select **Mark**. The system refreshes the sheet.
 - c. Repeat the last step and select Include marked in Forecast.

The option Include marked in Forecast changes the status of any marked transactions to Accepted and becomes a data source for use in the forecast, if included in the Forecast formula.

Manual actions taken are not validated; you can include a value in the forecast without touching the YTB or AFC.

Working with Work Packages

A work package is a group of cost sheet rows that is a subset of the project/shell cost sheet. Work packages display view-only data taken directly from the project/shell cost sheet and is not editable in the Work Package window. Data must be edited in the project/shell Cost Sheet window.

Create a Work Package

The following procedure discusses how to create a work package.

Note

After a work package has been created, it cannot be deleted.

To create a work package:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet** to open the **Cost Sheet** log.
3. Select the **Create** button, and select **Work Package**. The Work Package Properties window opens.
4. Use the information in the following table to complete the Work Package Properties window, and select **Save**.

In this field	Do this
Title	Enter a title, which displays in the log.
Reference No.	Enter a unique reference number.
Description	You may enter a description of the work package here.
Creator	This will be populated automatically with the name of the user creating the work package.
Date Initiated	This is populated automatically with the initiated date.
Status	Select Active or Inactive .
Owner	Select an owner for the record.
Vendor	Select a vendor for the work package.

You can attach files to the work package after creation with the **Attachments** tab, which appears in the right pane when the record is selected.

Open a Work Package

To open a work package:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**. The Cost Sheet log opens.
3. Double-click a work package from the log, or hover over the work package, select the *gear menu* () , and select **Open**. The Work Package opens.

 Note

You can select **Split** to split the window to scroll through the columns while maintaining the CBS code in view. A summary of the work package data can be exported into a CSV file from this window.

Change Work Package Currency

You can view work packages in the company base currency or the project currency, which may differ.

To choose the currency in which to display the work package data:

1. Open the Work Package window.
2. In the top toolbar, select **Switch to Base Currency** .
3. If you want to switch back to project currency, select the same button again.

View Work Package Properties

To open the Work Package Properties tab:

From the project/shell Cost Sheet log, select the work package. The **Properties** tab is visible in the right pane.

Export Work Package Data

You can save summary work package data to a local file system in a CSV or Excel format.

To export work package data:

1. Open the Work Package
2. From the Work Package window, select **Print**.
3. Select one of the following options:
 - **Print**
 - **Export To CSV**
 - **Export To Excel**

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Depending on your browser or your export selection, the file will be downloaded automatically, or you will be prompted to download the file manually.

Working with Worksheets

Worksheets are extensions of the cost sheet. They can be used as subcost sheets, enabling specific calculations or data entry in a separate sheet, which can then be rolled up into a defined project/shell cost sheet column. The rows equal the CBS codes on the cost sheet. Worksheets can have multiple columns for data entry or formula calculations, but do not support data rolled up from business processes.

Example uses of a worksheet:

- A worksheet can be used to off-load complex calculations requiring multiple columns. The final value can be rolled up into a single cost sheet column.
- Worksheets are governed by individual permissions. You can design worksheets to use as a method of data entry or review for users that you do not want to have any access to the project/shell cost sheet, for example, a contractor who is developing an estimate.

A cost sheet column can be associated with a worksheet as the data entry method. A worksheet column can also be associated with another worksheet, if there is not a circular reference. There can be multiple worksheets in a project/shell.

Note

A circular reference is referred to a reference in which the last field references the first field and creates a closed loop.

A worksheet template can be created in Admin mode. Permissions can be controlled for individual worksheets. Worksheets are not independently reportable; however, cost sheet columns that reference worksheets can be reported on.

Create a Worksheet

You can create a worksheet by copying a worksheet template or copying a worksheet from another project/shell.

To create a worksheet from a template:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**. The Cost Sheet log opens.
3. From the toolbar, select **Create**, select **Worksheet**, and then select **From Template**.
4. In the **Create Worksheet Template** dialog box, select the template to copy and select **Save**. The worksheet appears in the log.

To create a worksheet from another worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**. The Cost Sheet log opens.
3. From the toolbar, select **Create**, select **Worksheet**, and then select **From Projects**.
4. In the **Create Worksheet from Project** dialog box, click **Select**.
The **Worksheets** list contains each worksheet in each project/shell. If there are multiple worksheets in a project/shell, they are listed separately.
5. Choose an item, and click **Select**.
6. Select **Save**. The worksheet appears in the log.

You can add manual-entry or formula columns to a worksheet. Rows are created automatically from the CBS codes in the cost sheet.

Open a Worksheet

To open a worksheet directly from the log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**.
The Cost Sheet log opens.
3. Select the worksheet from the log, and click **Open**.

Note

When you first open the sheet, the opening view will depend on the **Default View** option selected in the Properties window. Your cost sheet administrator can set this default view. Worksheets can be resized and split/unsplit the same way as cost sheets (see [Resize cost sheet window](#) or [Split or unsplit cost sheet window](#)).

To open a worksheet from the cost sheet:

Select cost sheet column data that refers to a worksheet as data entry.

Adding a column to a worksheet is similar to adding a column to the cost sheet. You can add manual-entry (direct or line item) columns or formula columns. You can also add columns that reference other worksheets. This allows interaction between worksheets.

The available data sources are Project Worksheet Cost 1 through 50.

To add a column:

1. Open the worksheet, and select **Columns**. The Columns Log opens.
2. Select **New**. The Column Properties window opens.

3. Complete the column properties as usual for a column.
If you are creating a formula, the data sources that are available for the formula are limited to the other columns on the worksheet.
4. Complete the window, and select **OK**.

View or edit worksheet properties

Worksheet and worksheet type properties can be viewed and edited. The ability to edit worksheet properties is dependent on your user permission settings. Contact your project or company administrator if you have questions regarding your user permission settings.

To view or edit worksheet properties:

When you select your existing project cost sheet from the **Cost Sheet** log, the right pane of the log displays the **Properties** and **Audit Log** tabs.

When you open (*gear menu* [⚙]) your existing project cost sheet from the **Cost Sheet** log, the Cost Sheet window opens and displays the currency, a series of toolbar options, and the project cost sheet.

Note

You cannot edit your existing project cost sheet from the **Cost Sheet** log.

When you click a worksheet type in the **Cost Sheet** log, the right pane of the log displays the **Properties**, **Permissions**, and **Audit Log** tabs. These tabs let you edit or change the name or description of a worksheet type, view permissions for it, and view a log listing the changes in it. (Be aware that the Audit Log only provides details based on the import of a CSV file.)

When you open (*gear menu*) a worksheet type in the **Cost Sheet** log, the worksheet overlay window opens which contains details about the worksheet. If you click any of the cells, under any column in the worksheet, the **Cell Detail** window opens, which lets you view the information, add attachments, add notes, and so forth.

Modify worksheet default view

You cannot modify a worksheet default view, but you can create views and set any newly created view as the default view.

Add a Worksheet Column to the Cost Sheet

You can roll up the data from a worksheet column into a project/shell cost sheet column.

To add a worksheet column to the cost sheet:

1. In the cost sheet, select **Columns**, and then select **New**. The Column Properties window opens.
2. In the **Datasource** column, choose any of the project/shell cost data sources **Project Cost 1** through **Project Cost 25**.
3. For Entry Method, choose **Worksheet**.
4. Choose the worksheet (name), and then the column within the worksheet.
5. Complete the rest of the Properties window, and select **OK**.

Worksheet data in cost sheet column:

When a worksheet is used as a source for a cost sheet column, you can open the source worksheet by selecting a cell in the cost sheet column, make the necessary data changes in the worksheet, and then select **Save** to save the updated source worksheet.

When you update the source worksheet using this method, the system saves the updated worksheet in the database, but the system does *not* immediately show the updates in the cost sheet window.

To see the updates in the cost sheet, either:

- Refresh the cost sheet (select **Refresh**), or
- Close the cost sheet and open it again.

Example:

You enter \$8,888.00 in your project Work Sheet Column (Cost 1 column, row 3) for cost code 00800 and save your input.

As per design, the system saves your updates in the project worksheet, but it does not display the updates in the cost sheet until you select **Refresh** in the cost sheet or close the cost sheet and open it again.

Assign permissions to the worksheet

You can configure the permission settings for each worksheet, which lets you control access to each worksheet individually. The owner of the worksheet is granted permission to access and modify it automatically. The owner must grant permissions for other users or groups to access a worksheet.

To assign permissions to a worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**. The Cost Sheet log opens.
3. Select one or more worksheets.
4. From the toolbar, select **Actions**, and then select **Permissions**. You can also select the *gear menu* (⚙️) and select **Permissions** to assign permissions to only one worksheet. The Permissions window opens.
5. In the Permissions table, type the user or group name in the **Add** box and select the user or group to grant access.
6. By default, each listed user or group will be granted **View** permission, allowing them to open the worksheet. To grant additional permissions, select the checkboxes that correspond to the user or group:
 - **All:** User will have **View**, **Edit**, and **Modify Permission**.
 - **Modify Permissions:** Allows user to control the worksheet's permission settings.
 - **Edit Data:** User can import worksheet information, save a snapshot, edit worksheet properties, and add columns.
 - **View:** User can view the worksheet.
7. Select **Save**, or select **Save & Next** to go to the next worksheet.

When you change settings in the Permissions window, the **Save** button is enabled. After you select **Save**, a spinning wheel appears while your changes are saved and then the **Save** button is dimmed.

You can Remove user or group permission by selecting  in the **Remove** column.

Note

Permissions can only be set for worksheets. You cannot set permissions for cost sheets or work packages.

Import worksheet column details

You can only import data into columns that are defined as manual data entry.

To import column details:

1. From the **File** menu, select **Import**, and then select **Column Details**, or select the **Import** button and choose **Column Details**. The Select Column window opens.
2. Select the column, and select **OK**.

Export worksheet details

This will allow the user to export details of the worksheet. The following options are available under **Export**:

- **Summary Worksheet:** This option will export the entire worksheet similar to cost sheets.
- **Column Details:** You can only export data from manual data-entry columns.

To export a summary worksheet:

From the **File** menu, select **Export**, and then select **Summary Worksheet**, or select the **Export** button, and choose **Summary Worksheet**.

Project or Shell Cost Sheet Log

When you select the Cost Sheet sub-node in the left Navigator (User mode), you can see the Cost Sheet log layout.

Note

The functions of the options presented in this section have been explained in the preceding sections of [Working with Project or Shell Cost Sheets](#). This section explains new functions and procedural differences.

The log contains the following types of records:

- Cost Sheet
- Worksheets
- Work Packages

Cost Sheet Log

When you select a cost sheet row, the right pane opens. The right pane contains the Properties and Audit Log tabs, which provide more details for the selected cost sheet.

The **Properties** tab contains the following fields:

- **Name:** Cost Sheet Name. Read-only field.
- **Description:** Cost Sheet Description. Read-only field.
- **Structure:** Read-only field. Displays the selected Radio option only. For example, if cost sheet Structure is 'Flat', then this field displays the 'Flat' only (and not 'Tree') structure.
- **Sort WBS:** Editable checkbox that is displayed only if the structure is 'Flat'.
- **Segments:** Displays a preview of the cost code structure using the segments and cost code separator as defined by the user.
- **CBS Code Label:** Read-only field.
- **CBS Item Label:** Read-only field. This is same as existing field 'CBS Item' within the block 'Labels' and tab 'Options.'
- **Forecast Details:** Read-only. Displays the radio option selected by the user when defining the cost sheet.
- **Forecast Inclusion:** Read-only. Displays the radio option selected by the user when defining the cost sheet.
- **Enable Cost Sheet Forecasting:** Read-only checkbox. It is displayed only if the user has selected this option.
- **Enable P6 sources:** Editable checkbox.

The **Audit Log** tab displays the Audit log for the cost sheet. Be aware that the Audit Log only provides details based on the import of a CSV file or an API-based update.

The right pane has the 'Expand' icon in the upper-right corner. Use it to expand or collapse the pane.

The left pane lists all the shell instances of the same type (the shell in which cost sheet is being created).

If you create a cost sheet in a project, the list shows a list of all project instances in the company, and you can copy the cost sheet from any source.

The Cost Sheet log layout contains the following columns:

- **Name**
- **Reference No.**
This column does not appear in an empty log or if there are no work packages in the log. That is, this column appears only if there are work packages within the log.
- **Date Created**
- **Created By**
- **Type**
This will be the default sort column, followed by sort on **Name**.
- **Auto Snapshot**
This column indicates whether automatic snapshots are scheduled for the sheet.

- **Status**

The following options are available on the toolbar: Create, Actions (which provides access to Permissions), View, Refresh, Print, and Find on Page. The following explains each option in detail.

Create

When *no* Cost Sheet has been created yet, there are two submenu options available:

- **from Template**
Lists all the available Cost Sheet Templates within the company. You can create a Cost Sheet within the project/shell when you select New, select Cost Sheet, and then select Copy from Template.
- **from <shell type>**
When you select this option, the Create Cost Sheet from Project window opens. In this window you can:
 - See the selected project
 - Manually enter columns from a list of available columns
 - Determine the shell size, location, and duration

The fields in this window capture the factors that you can copy over manual entry columns from source project/shell cost sheet to destination. The Available Columns displays a list of all manual entry columns from the selected project cost sheet. You can select none or any number of available columns in the right section. The Factors fields let you enter a factor to copy over the manual entry columns into the cost sheet.

When you select **Done**, a new cost sheet will be created in the project.

Actions, and then Permissions

Lets you configure the permission settings for a worksheet. See [Assign permissions to the worksheet](#).

View

The default view is **All** which results in the display of all sheets in the log. You can select **Group by Type** view which results in the cost sheets grouped by type, with the cost sheet at the top.

Refresh

Updates the data that is displayed.

Print

Lets you print the list of cost sheets displayed (**Print**) or export the list to an external file (**Export to CSV** or **Export to Excel**).

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Find on Page

To find an item on the log. You can do a text-based Find on each column.

When no records have been created within the log, the right pane is blank. You can collapse the right pane.

When there are records within the Cost Sheet node, the Project Cost Sheet is selected by default, and the **Create** option has the following submenu options:

- **Worksheet:** (Same as creating the cost sheet from a template or from another project. Selecting any template creates a worksheet in the project by copying the selected template.)
 - **from Template:** Selecting any template creates a worksheet in the project by copying the selected template.
Project Cost Sheet - Template 1 < listing all the available Worksheet Templates in the Company

Project Cost Sheet - Template 2 < listing all the available Worksheet Templates in the Company
 - **from Projects:** Selecting this option lets you select a worksheet from another shell of the same type in which the worksheet is being created. This picker is similar to the 'Select Project' picker in 'Create Cost Sheet from Project' window. Similar to 'Select Project' picker in 'Create Cost Sheet from Project' form, when you select at the 'Select Project' picker a flat list of all worksheets from all shells of same type as the one in which the worksheet is being created. You can select 'Create Worksheet (from project)' and then navigate to some other log within the system without taking any action in the resulting overlay form. In such a scenario, when you return to the Cost Sheet log, the previously opened overlay form will continue to show up in the log.
- **Work Package**
When you select to create a Work Package, you will see a new overlay window (Create Work Package). The 'Owner' picker is similar to a single-select type-ahead user picker at other places in the system (For example: Transfer Ownership action within BP logs). The 'Vendor' picker is a single select type-ahead Company picker (similar to the single select user picker). Both pickers provide suggestive text informing you that these are type-ahead boxes.

If you select more than one record from the cost sheet log at the same time, the right pane will be blank with message: Details of multiple records cannot be viewed.

Note

If you select more than one worksheet at the same time, the right pane displays the **Permissions** tab.

Worksheet Log

When you select a project/shell worksheet (select the row), the right pane opens. The right pane contains the **Properties** and **Audit Log** tabs.

The **Properties** tab is displayed by default and contains properties of the Worksheet. The General block in this tab has the following tabs:

- **Name:** Worksheet Name. Editable text box, DD will be same as existing.
- **Description:** Worksheet description. Editable text box, DD will be same as existing.

The **Audit Log** tab displays the Audit log (View and then select Audit Log) for the Worksheet. Be aware that the Audit Log only provides details based on the import of a CSV file or an API-based update.

The right pane has the Expand  icon at the top right. Use it to expand or collapse the pane.

If you select more than one record from the worksheet at the same time, the right pane displays the Permissions tab. This lets you set permissions for more than one worksheet at the same time.

To grant permission to a worksheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet**. The Cost Sheet log opens.
3. Select one or more worksheets, select **Actions**, and select **Permissions**. You can also select the *gear menu* () and select Permissions to assign permissions to only one worksheet. The Permissions window opens.
4. In the Permissions table, type the user or group name in the **Add** box and select the user or group to grant access.
5. By default, each listed user or group will be granted **View** permission, allowing them to open the worksheet. To grant additional permissions, select the checkboxes that correspond to the user or group:
 - **All:** User will have **View**, **Edit**, and **Modify Permission**.
 - **Modify Permissions:** Allows user to control the worksheet's permission settings.
 - **Edit Data:** User can import worksheet information, save a snapshot, edit worksheet properties, and add columns.
 - **View:** User can view the worksheet.
6. Select **Save**.
When you change settings in the Permissions window, the **Save** button is enabled. After you select Save, a spinning wheel appears while your changes are saved and then the Save button is dimmed.
7. When editing one record at a time, select the **left arrow** to view the previous worksheet or the **right arrow** to view the next worksheet.

8. After exiting the Permissions window, the Permissions tab will be refreshed with the updated information.

You can Remove user or group permission by selecting  in the **Remove** column.

Work Packages

When you hover over a Work Package row, the *gear menu* () displays.

When user will select a Work Package row (select the Work Package row), the right pane opens and displays the following tabs:

- **Properties**
- **Attachments**

Note

The 'Vendor' is a company picker.

The **Properties** tab is displayed by default and contains properties of the Work Package. The General block contains all the elements of the Work Package properties window.

The **Attachments** tab has the same elements of the Attachments tab in a BP log. You can add attachments from a Document Manager, or your local computer, from this tab.

The *gear* () menu, for any attachment has the following options:

- **Review**
- **AutoVue Review**
- **Open in Office for the web**
- **Download**
- **Remove**

You can right-click multiple attachments and perform download or remove.

Working with the Company Cost Sheet

Like other cost sheets, the ability to work with the **Company Cost Sheet** depends on the permissions that you have.

Note

Contact your project or company administrator if you have questions regarding your permission levels.

A **Company Cost Sheet**, as shown in the example below, is comprised of a series of company projects/shells represented in rows.

General Construction... GC -Company WS **Example of a Company Cost Sheet**

Company Cost Sheet

Currency: United States Dollar (USD)

	Project Number	Project Name	Estimate	Original Budget	Pending Budget Revisions	Approved Budget Revisions	Revised Budget
1	AP-001	All Projects	\$0.00	\$0.00	\$0.00	\$0.00	
2	PRJ-362	Documentation	\$0.00	\$0.00	\$0.00	\$0.00	
3	PRJ-362-7526	Documentation Planning	\$0.00	\$0.00	\$0.00	\$0.00	
4	PRJ-0091	FB Test Project	\$0.00	\$2,000,000.00	\$0.00	\$2,000,000.00	\$4,000,000.00
5	PRJ-1001	Los Gatos	\$0.00	\$0.00	\$0.00	\$0.00	
6	OZP-001	Oakland Zoo Project	\$0.00	\$0.00	\$0.00	\$0.00	
7	Test Project 3	PRJ-003	\$1,090.00	\$14,830,000.00	\$126,000.00	\$472,181.00	\$15,302,171.00
8	PR 004	Project Test 4	\$0.00	\$10,000.00	\$0.00	\$0.00	\$10,000.00
9	PS-0001	PS CBS Shell - 1	\$0.00	\$0.00	\$0.00	\$0.00	
10	PS-0002	PS CBS Shell - 2	\$0.00	\$0.00	\$0.00	\$0.00	
11	PS-0003	PS CBS Shell - 3	\$0.00	\$0.00	\$0.00	\$0.00	
12	PS-0004	PS CBS Shell - 4	\$0.00	\$0.00	\$0.00	\$0.00	
13	1123	PS CBS Shell - 5	\$0.00	\$0.00	\$0.00	\$0.00	
14	0001	sample std project	\$0.00	\$0.00	\$0.00	\$0.00	
15	PRJ-004	San Jose Recreation Park Expansion	\$54,000.00	\$425,000.00	\$0.00	\$1,144,650.00	\$1,569,650.00
16	PRJ-2222	Test 2222	\$0.00	\$0.00	\$0.00	\$0.00	
17	PRJ - 3333	Test 3333	\$0.00	\$0.00	\$0.00	\$0.00	
18	PRJ-001	Test Project 1	\$0.00	\$0.00	\$0.00	\$0.00	
19	PRJ-010	Test Project 10	\$0.00	\$679,000.00	(\$10,000.00)	\$970,000.00	\$1,649,000.00
20	PRJ 006	Test Project 6	\$20,000.00	\$30,000.00	\$0.00	\$7,000.00	\$37,000.00
21	PRJ 007	Test Project 7	\$0.00	\$0.00	\$0.00	\$0.00	
22	PRJ 008	Test Project 8	\$0.00	\$0.00	\$0.00	\$0.00	
Total			\$75,090.00	\$17,974,000.00	\$116,000.00	\$4,593,831.00	\$22,567,831.00
Total: 22							

All the rows are projects or shells

Note

There is only one **Company Cost Sheet**.

Within the **Company Cost Sheet**, the projects/shells are listed in order by **Project Number** and then by **Project Name** followed by other data sources, all shown in columns.

Data rolls up to the **Company Cost Sheet** columns from the individual project/shell cost sheets columns, by data source.

The **Company Cost Sheet** columns headings provide the following information, upon hover over:

- **DataSource**
- **Total**
- **Formula** (when applicable to the data source)

If the *Base Currency* is different from the *Shell Currency*, the current "Active" *Exchange Rate* is used to display Costs in the **Company Cost Sheet**.

Only published P6 data source, as defined by the Administrator (in the **Standards & Libraries (Admin mode)**), can be used for P6 as data source. If you add a column to the **Company Cost Sheet** and select P6 as the data source, the data is acquired from the corresponding **P6 Source** column of the shells in the company.

The following explains how to work with the **Company Cost Sheet**.

Opening Company Cost Sheet

To open the **Company Cost Sheet**:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet** to open the **Company Cost Sheet** to access all the CBS projects/shells that the **Company Cost Sheet** pulls data from.

Searching for Projects or Shells in Company Cost Sheet

To search for projects/shells that are listed (rows) in the **Company Cost Sheet**:

1. From the toolbar, select **Find on Page** to open a row on top of the rows within the **Company Cost Sheet**.
2. Enter values in the desired column to start a search for a specific project/shell that contains the information that you are searching for.

To deactivate the search, select **Find on Page**.

Importing Company Cost Sheet Data

To export the **Company Cost Sheet** data:

1. From the toolbar, select **Menu Options** (), and select **Import**.
2. Select **Column Details** to open the **Import Column Details** window.
3. Select **Column Name** and select the column that you want to import.
4. Select **Import**.
5. Follow the prompts.

Exporting Company Cost Sheet Data

To export the **Company Cost Sheet** data:

1. From the toolbar, click **Menu Options** (), and select **Export**.
2. Select one of the following options:
 - **Summary Cost Sheets:** Lets you create a comma-separated values (CSV) file (**Summary_Cost_Sheet.csv**) for export. This option lets you export complete cost sheet information, including project/shell name, number, and data from all columns.
 - **Column Details:** To open the **Export Column Details** window and select the column that you want to export. Select **Column Name**, and select the column that you want to export. This option exports only Company Cost 1 to Column Cost 25 logical data sources that are configured as manual entry.
3. Select **Export**.
4. Follow the prompts.

Adding a Column to Company Cost Sheet

The **Project Number** and **Project Name** columns in the **Company Cost Sheet** are static. This means that you cannot delete or hide these columns. Also, you cannot add columns to the static columns or see or access their properties. These two columns are separated from the rest of the columns through a vertical separator.

The rest of the columns in the **Company Cost Sheet** are dynamic. This means that you can delete or hide these columns. Also, you can add columns to the dynamic columns or see or access their properties. To access these options, right-click the column heading and select from the following available options:

- **Hide**
- **Delete**
- **Lock after this Column**
- **Insert**
- **Properties**

With the exception of the very first column (one of the static columns), if you select inside a cell and right-click, you get the **Insert Column Before** and **Insert Column After** options. The second column (**Project Name**) only lets you **Insert Column After**.

To add a column to the **Company Cost Sheet**:

Note

The red asterisk next to a field box indicates that the field is a required field. You will not be able to save your changes without entering a value in that field.

1. From the toolbar, select **Add Column** to open the **New Column window**.
2. Enter values, or select options, in the following fields:
 - **Name:** Enter the name of the new column that you want to add to the existing **Company Cost Sheet**.
 - **Type:** Select the source type. Your options are:
 - **From Business Process**
 - **Direct Entry**
 - **Line Item Content**
 - **Formula:** When you select this option, the **Formula** field box opens in the **New Column** window, which lets you enter the formula.
To create or build a formula, click **Select** (upper-right corner of the **Formula** field box) to open the **Formula Creation** window. In this window, you can select the column that you want to contain the formula and use the features to create or build your formula.
 - **Datasource:** Select your data source.

Note

The options made available in **Datasource** drop-down list changes based on the selection that you make in the **Type** drop-down list.

- **Data Format:** Selecting one of options under this field depends on your previous selections. The options are:
 - **Currency**
 - **Decimal**
 - **Display Mode:** Lets you determine whether to display the column after you add it to the sheet.
 - **Show**
 - **Hide**
 - **Total:** Lets you set how the totals are displayed. The options are:
 - **Blank**
 - **Sum of All Rows**
 - **Column Position After:** Lets you determine the position of the added column.
3. When finished, select **Save** or **Save & Add New**.
To discard changes, or to close window, select **Cancel**.

Restricting a Column on the Company Cost Sheet

Restricting columns on the **Company Cost Sheet** refers to allowing or disallowing users or groups to edit or view columns.

To place restrictions on a column on the **Company Cost Sheet**:

1. From the toolbar, select **Menu Options** (), and select **Columns**.
2. Select **Restrictions** to open the **Restrictions** window.
3. To select users or groups, click **Select** to open the **User and Group Picker** window. After you select your users or groups, select **Done** to add the users or groups and close the window and go back to the **Restrictions** window.
4. Proceed to select the column (under the **Column**) that you want to be restricted for the users or groups.
5. Restrict users or groups by preventing (disallowing) them to edit or view the column. If you do not see the **Disallow Editing** or **Disallow Viewing** columns, right-click the **Column** header to open the menu, select **Columns**, and select **Disallow Editing** and **Disallow Viewing** one at a time.

The **Column** header menu also lets you sort, lock, and unlock columns: **Sort Ascending**, **Sort Descending**, **Lock after this Column**, and **Unlock**

6. When finished, you can do one of the of the following:
 - Select **Save** to save your changes and close the window.
 - Select **Save & Close** to save your changes and close the **Restrictions** window.

To discard changes, or to close window, select **Cancel**.

Changing the Properties of a Column on the Company Cost Sheet

To change the properties of an existing column on the **Company Cost Sheet**:

1. To open the **Column Properties** window, right-click the column heading, and select **Properties**.

2. Proceed to change or update the values, or selections, for the following fields:

- **Name**
- **Type**
- **Datasource**
- **Data Format**
- **Display Mode**
- **Total**
- **Column Position After**

For details about each of the preceding fields, see [Adding a Column to Company Cost Sheet](#).

3. When finished, select **Save** to save your changes and close the window.

To discard changes, or to close window, select **Cancel**.

Creating and Opening a Snapshot of the Company Cost Sheet

Snapshot provides a rendering of the **Company Cost Sheet** at the time that the snapshot was taken. It is similar to taking a photo of the **Company Cost Sheet** at a specific time.

To create a snapshot of the Company Cost Sheet:

1. From the toolbar, select **Menu Options** (), and select **Snapshots**.
2. Select **Create** to open the **Create Snapshot** window.
3. Enter a title for the snapshot. Note that the date and time is displayed.
4. Select **Create**.
To discard changes, or to close the window, select **Cancel**.

To open your snapshot, or any previous snapshots:

1. From the toolbar, select **Menu Options** (), and select **Snapshots**.
2. Select **Open** to open the **Snapshot Log**.
3. The **Snapshot Log** lists all the **Company Cost Sheet** snapshots in a table, categorized according to the snapshot title, date that it was created, and the user who created it. You can use the toolbar options to refresh the list, print or export the list, or find items in the list.
4. Select the desired snapshot on the list, select the *gear menu* (), and select **Open** to open the snapshot. Alternatively, you can double-click the selected snapshot to open it.

You can open several snapshots, if available, to compare past values with the current ones.

You can close the **Snapshot Log** after you have opened your snapshots.

Accessing Project or Shell Cost Sheet from Company Cost Sheet

You can access a project/shell cost sheet through the **Company Cost Sheet**. This lets you access any specific cost information (about the project/shell cost sheet) that "rolls up" to the **Company Cost Sheet**.

To access the project/shell cost sheet through the **Company Cost Sheet**:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Cost Sheet** to open the **Company Cost Sheet** to access all the CBS projects/shells that the **Company Cost Sheet** pulls data from.

Note

If the selected source cost sheet has duplicate columns that the system cannot auto-correct, an alert is displayed to the user to take further action.

3. From the first column, identify the project/shell that you want to access, and select the cell (select the link) to open the cost sheet for that project/shell in a window.

As shown in the image below, the cost sheet window has the following parts:

- Title
- Toolbar
- Columns
- Properties tabs

Cost Sheet - (AP-001 : All Projects) Budget unlocked Title

Toolbar

	Cost Code	Code Name	Estimate	Original Budget	Pending Budget Revisions	Approved Budget Revisions	Revised B
1	001	Contractual Requirements	\$0.00	\$0.00	\$0.00	\$0.00	
2	002	General Conditions	\$0.00	\$0.00	\$0.00	\$0.00	
3	003	Concrete	\$0.00	\$0.00	\$0.00	\$0.00	
4	004	Design Reviews	\$0.00	\$0.00	\$0.00	\$0.00	
5	005	Architect reviews	\$0.00	\$0.00	\$0.00	\$0.00	
	Total		\$0.00	\$0.00	\$0.00	\$0.00	

Total: 5 Columns

General Attachments Notes Fund Assignment Order Properties tabs Dock Right Expand 001

▼ CBS Details

Segment 1 *

001

Cost Code *

001

Cost Item *

Contractual Requirements

Cost Type *

Capital

Status *

Active

Owner

Cost Attribute

External Ref ID

- **Title**
Displaying the title of the cost sheet and an icon (open padlock or closed padlock) indicating whether the budget for the project/shell is unlocked or locked.
- **Toolbar**
Enabling to conduct various operations within or with the cost sheet. For more information, see [Project or Shell Cost Sheet Toolbar Options](#).
- **Columns**
There are two sets of columns:
 - Cost Code and Code Name columns
 - Other columns
 For more information, see [Project or Shell Cost Sheet Columns](#).
- **Properties tabs**
The properties tabs provide additional information about each cost code, as well as the associated budget, included in the project/shell cost sheet. With the exception of the **Code**

Name column, each column in the cost sheet has corresponding properties that are shown in a series of tabs, displayed at the lower section of the project/shell cost sheet window. In case you cannot see these properties tabs, select and drag the split screen icon () to adjust the size of the lower pane.

For details about the columns and properties tabs, see [Project or Shell Cost Sheet Columns](#).

The following explains the elements of project/shell cost sheet when you access it from the company cost sheet.

Project or Shell Cost Sheet Toolbar Options

The following explains the project/shell cost sheet toolbar options, after you open the project/shell cost sheet from the company cost sheet.

Refresh: Use this option to update the information displayed on the screen.

Print: Use this option to print the information displayed on the screen (**Print**) or export the list displayed to an external file (**Export to CSV** or **Export to Excel**).

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Find on Page: Use this option to search the information displayed on the screen to find a particular item or entry. Selecting this option will open a row on top of the rows within the log, and you can enter values in each column to start a search for a specific item in the log.

Menu Options (): This option lets you access the following features:

Feature	Description
Export	Lets you export the following: - Summary Cost Sheet - Summary Budget - CBS Details - Column Details
Snapshots	To open the Snapshot Log and access all the snapshots taken from the cost sheet.
Currency	To select one of the following currency options for the cost sheet: Project Currency Base Currency

Feature	Description
Budget Distribution	To open the Budget Distribution window. Note that the open padlock icon signifies that the budget for this cost sheet is unlocked. For more information, see the "Working with Budget Distribution Overview" and "Working with Budget Distribution Distributed Amount" sections later in this topic.
Row Coloring	To apply color to the columns. Your options are: • Multiple Colors • Single Color
Properties	To open the Properties window. This option lets you review properties such as CBS code label, CBS item label, whether the cost sheet has been enabled to received data from P6, and so forth. The Properties fields are read-only.
Audit Log	To see a record of all the actions that have been taken on the project/shell cost sheet based on the import of a CSV file or an API-based update. The following are captured in the Audit Log : • Date • Event • Action • Field • Old Value • New Value • User Name • Proxy User • Attachment Use the toolbar options to refresh, print, or find items within the Audit Log .

Currency

This is a toggle key that lets you switch to Base Currency or switch to Project Currency.

Working with Budget Distribution Overview

When you select **Budget Distribution** from the **Menu Options**, as shown in the image below, the **Overview** block provides two sets of information within two panes. For example, the left pane provides information about the project budget capital, expense, and scope, and the right pane provides properties information within the following tabs:

- **Attachments** tab: Contains any available files that have been attached to the budget as supporting record.
- **Audit Log** tab: Lists all the actions taken on the budget.
- **Lock/Unlock History** tab: Provides a history regarding the times that the budget has been locked or unlocked, which includes date, time, explanation, and user name.

Budget Distribution

Save & Lock X

Overview
Undistributed Capital Amount = \$0.00 Undistributed Expense Amount = \$0.00

Project Capital Budget \$0.00 Status Unlocked

Project Expense Budget \$0.00 Lock Date

Scope of Budget * Project Currency United States Dollar (USD)

Base Currency United States Dollar (USD)

Comments Exchange Rate 1 USD = 1.0000 USD

Attachments Audit Log Lock/Unlock History

Information
No Attachments.

> Distributed Amount

Working with Budget Distribution Distributed Amount

When you select **Budget Distribution** from the **Menu Options**, as shown in the image below, the **Distribution Amount** block shows cost code details and properties. The **Distribution Amount** block is divided into two panes:

- The left pane lists the cost codes and the cost codes information related to the budget distribution.
- The right pane is the properties pane which contains the information to a selected cost code that is listed in the left pane.

These properties pane has the following tabs:

General tab: When you select a cost code from the left pane, this tab shows the CBS details for that cost code. All the fields are read-only.

Attachments tab: When you select a cost code from the left pane, this tab lists any files that are attached to that cost code.

Notes tab: When you select a cost code from the left pane, this tab lists any notes related to that cost code.

Use the **Distribution Amount** block toolbar options to refresh, print, find, or collapse-expand the groups of cost codes listed (if any).

Budget Distribution Save & Lock ×

Overview
Undistributed Capital Amount = \$0.00 Undistributed Expense Amount = \$0.00

Distributed Amount

	Cost Code	Code Name	Type	Distributed Amount
1	001	Contractual Requi...	Capital	\$0.00
2	002	General Conditions	Capital	\$0.00
3	003	Concrete	Capital	\$0.00
4	004	Design Reviews	Capital	\$0.00
5	005	Architect reviews	Capital	\$0.00

General **Attachments** **Notes**

CBS Details
Segment 1
001

Cost Code
001

Cost Item
Contractual Requirements

Cost Type
Capital

Status
Active

Owner

Cost Attribute

External Ref. ID

Description

Project or Shell Cost Sheet Columns

There are two sets of columns in a project/shell cost sheet:

- Cost code and code name columns
- Other columns

In the first column, **Cost Code**, you can select inside a cell, then right-click, and do one of the following:

- **Add Sibling Row:** This selection will open the **Add Rows** window which lets you enter CBS details for the sibling row.
- **Add Child Row:** This selection will open the **Add Rows** window which lets you enter CBS details for the child row.

In the second column, **Cost Name**, you can select inside a cell, then right-click, and do one of the following:

- **Add Sibling Row**
- **Add Child Row**
- **Insert Column After:** This selection will open the **New Column** window which lets you name the new column, select the source type (form BP, worksheet, activity sheet, line item, and so on), select a data source, data format, display mode, total, and determine the column position.

If you right-click in a cell within other columns, you can:

- **Add Sibling Row**
- **Add Child Row**
- **Insert Column Before**
- **Insert Column After**

Project/Shell Cost Sheet Columns and Properties Tabs

If you select inside a cell under the **Cost Code** column, the following properties tabs will be displayed at the lower section of the project/shell cost sheet window:

- **General** tab: The **General** tab will display the CBS details, Cost Code, Cost Item, Cost Type, Status, and other information related to the selected Cost Code. The information on the **General** tab is read-only.
- **Attachments** tab: The **Attachments** tab will include attachments, if available.
- **Notes** tab: The **Notes** tab will include any related notes, if available.
- **Fund Assignment Order** tab: The **Fund Assignment Order** tab will include information if the Funding Manager is used to set the project/shell fund assignment order at the CBS level.

If you select inside a cell under the other columns, the following properties tabs will be displayed at the lower section of the project/shell cost sheet window:

- **Transactions** tab: Which, depending on the column that you select, you can group and view the details. For example, if you select a cost code cell under the column named Original Budget, you can view the Transactions by selecting the Budget Approval (Approved), for the View By drop-down field, and see the details for that transaction such as the title, work package, description, and amount.
- **Cell Details** tab: As the name of the tab suggests this tab provides read-only fields containing details about the CBS code that you have selected.
- **Attachments** tab: To access any attached files related to the cost code.
- **Notes** tab: To access any notes related to the cost code.
- **Audit Log** tab: To see a record of all the actions that have been taken on the column that the selected cost code is a part of. Be aware that the Audit Log only provides details based on the import of a CSV file or an API-based update.

Schedules of Values (SOV)

The Schedule of Values (SOV) feature provides a way to assemble information from Contract, Change Order, Invoice, and Payment Business Process into an SOV sheet and streamline the process of invoicing for completed phases of a project. The following is a list of Schedule of Values (SOV) types:

- **General Spends**
- **Payment Applications**
- **Summary Payment Applications**

SOV functionality is available with uDesigner-created Cost BPs for which the **Allow creation of SOV** option is defined. The business processes can be designed to create an SOV sheet automatically upon reaching the designated step.

When a Base Commits Business Process (BP) is approved, it creates a Schedule of Values (SOV) sheet. The SOV sheet is the "working document" on which committed amount are

entered. The committed monies shown on the SOV sheet are rolled up to the Company Cost Sheet.

Note

The Change Commit BPs continue to change or add costs to the SOV during the life of the Project/Shell.

The Schedule of Values (SOV) functionality provides a way to assemble information from contract, change order, and invoice/payment BPs into a SOV sheet, streamlining the process of invoicing for completed phases of a Project/Shell.

SOV functionality is available for Cost type BPs in which the "Allow creation of Schedule of Values" option is defined, or selected, in the design properties. The BPs can be designed to create an SOV sheet automatically upon reaching the designated step.

You may define one SOV sheet per Commit BP, for example, a Purchase Order or a Contract. Rows are automatically populated based on the CBS/Cost/Accounts codes defined in the Commit BP.

Note

If you have Edit Data permission and you are working with the classic Payment Application, you can manually edit data for text-based columns and select different values for columns that use Pull Down data elements (DEs). This does not apply to Summary Payment Application (SPA) or General Spends. For more information on assigning permissions, see [Granting Permissions to Other Users](#).

Similar to the Cost Sheet, you can create SOV sheet views for better view of data.

To access the SOV sheet log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select the applicable SOV, such as **General Spends**.

From the SOV sheet log, you can open:

- BP records
- Base Commits BP records

When you double-click the SOV Sheet of a Base Commits BP record, a window opens that lets you see the SOV of the Base Commits BP record.

In the **Schedule of Values: General Spends** window, when you select a **SOV Base Record**, you can select the *gear menu* () , and perform one of the following:

- Open a record (**Open**)
You can also open a record by selecting the record number link in the **Properties** tab (right pane of the log).
- Set permissions for a record (**Permissions**)
- Open a SOV Base Record in Standard View (**Open Base Record**)
- Open a record in Classic View (**Open Classic Interface**)

When you open an SOV Base Record, the **Lineitem Type** column includes an active data element link, which lets you access the line item and edit the data.

When you open an SOV Base Record, the following tabs are displayed on the right pane:

- **General**
- **Breakdown**
- **Attachments**
In classic view, you could add attachments, but in the standard view this option is not supported.
- **Notes**
- **Fund Assignment Order**

The contents of these tabs are read-only, and the View Transactions is similar to Cost Sheet.

Types of SOV Sheets

The following lists the types of Schedule of Values (SOV) sheets:

- General Spends
- Payment Applications
- Summary Payment Applications

Note

In an SOV sheet, the system will round the field values, including the Decimal Amount type field values, to two decimal places.

General Spends

Use the General Spends SOV type for any Commit Business Process and associated Change Commits and Spends/Invoices.

Payment Applications

Use the Payment Applications SOV type:

- In association with Commit and Spends Business Processes that are designed for payment applications. This allows direct entry of values in an SOV sheet, which are automatically added to a payment application.
- For invoicing at the CBS or breakdown level. Payment Applications auto-populate data to and from the SOV to manage balance-forward formulas. The breakdown is similar to the General Spends SOV sheet.

Note

The General Spends and Payment Applications SOV types can show CBS information either by grouping CBS codes (CBS mode) or as individual line items from commits (base commit and change commit together). The information that the SOV displays is dependent upon the design of the base commit.

Summary Payment Applications

The Summary Payment Applications SOV allows users to allocate cost to line items based on the line item type (Lump Sum or Unit Cost).

Use the Summary Payment Applications SOV type in association with Commit and Spends Business Processes (BPs) that are designed for Summary payment applications SOV type.

Note

The Summary Payment Applications sub-node will be available under the Schedule of Values node only if a Base Commits, or Change Commits, of SOV type Summary Payment Applications is deployed in uDesigner.

Creating an SOV Structure

The SOV structure is defined at the Project level (User mode). Any modifications applied to an SOV structure will be reflected on all SOV sheets using that structure, that is, all SOV sheets used in a Project. If an SOV structure does not exist when you auto-create an SOV sheet with a Cost type Business Process (BP), one will be created automatically with the default columns CBS Code, CBS Item, and Breakdown. You can edit this structure as needed. The default columns are not editable.

This section explains how to create, view, add columns to, and edit an SOV sheet structure.

To create an SOV sheet structure:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Schedule of Values**.
3. In the left Navigator, select one of these options: **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log. If SOV sheets related to your options are already present, a structure exists and you can select **Update Structure** to update the existing structure.
4. Select the **Create Structure** button. The Select Template window opens.
5. Select an SOV template from the list and select **OK**.
6. Read the confirmation message and select **Yes** to confirm. The SOV sheets will be created using the structure defined by the template. You can use this structure as is or make edits as necessary.

To view or to set up the SOV structure:

1. From the Schedule of Values log, select **Update Structure** on the toolbar to open the SOV Structure window and view the contents and information that is listed under each column.
2. Select **Columns** to begin the process of adding additional columns.
3. In the Columns log, select **New** to open the Column Properties window.
4. Enter a name for the column in the **Name** field.
5. Select a data source from the **Datasource** drop-down list.
6. Select a Display Mode to determine whether the new column should appear on the SOV sheet or not.
7. Select a position for the new column from the **Column Position After** field.
8. Select **OK**.

Note

- While setting up the SOV structure, you may select **Split** to divide the window in half. This lets you scroll through columns and rows on the right while maintaining a view of the activity column on the left. Selecting the **Split** button again restores the whole window. While the window is split, you may select **Freeze** to lock the left half of the window in place. Select **Freeze** again to unfreeze.
- The structure may contain hidden columns. For example, one or more columns used in the formulas for other columns where the information in the hidden columns is not important to be viewed may have been hidden, leaving more room in the display for the formula column. Hidden columns otherwise behave normally.

To edit an existing SOV structure:

1. From the Schedule of Values log, select **Update Structure** to open the SOV Structure window.
2. From the **File** menu, select **Properties** to open the Properties window.
3. Make edits as needed in both General and Options tabs and when finished, select **OK**.

Note

You cannot edit read-only (grayed-out) fields.

Creating General Spends SOV Sheet

Typically, Commit Business Processes (BPs) such as Contracts and Purchase Orders, are designed to automatically create an SOV sheet upon reaching a specified status. Occasionally, the Business Process (BP) may allow manual sheet creation.

When you create and send a Cost-type BP in a Project, the system automatically creates a Schedule of Values (SOV) sheet for that BP record. The General Spends SOV sheet column structure must include the required columns and correct formulas for validating summary commitments (by Cost code) and remaining commits balance. You must define a formula for remaining commits balance, which reflects the amount of commits minus actual spends. This ensures that the Spends BP line items are not overdrawn from SOV breakdowns.

After the SOV template structure is set up for a General Spends SOV sheet, the rest of the SOV sheets are created based on the same structure.

Note

If you manually create an SOV sheet, you can only create one based on an approved commit BP record.

Follow these steps to create a General Spends SOV sheet manually:

1. In the **Schedule of Values** log, select **New**. The **Select Commit** window opens.

2. Select a commit BP (for example, a purchase order), and select **OK**. The SOV sheet is added to the log.

Note

If the commit BP has been set up to automatically create an SOV sheet upon the end step, the above procedure is not required.

To view cell details, select a link (for example, **Amount** or **Ref**) to open the Cell Detail window. Double-clicking a record from the list window shows the details of the record.

The columns with decimal values preserve, or maintain, the decimal values specified in the data element of the following business processes and SOV types:

- Schedule of Values (SOV) sheet: Payment Application and Summary Payment Applications
- Payment Application Line Items
- Summary Payment Application Line Items

As a result, the system will not round the decimal value to two decimals, for the preceding DEs.

Creating Payment Applications SOV Sheet

You can define the structure of a Payment Applications SOV sheet based on a Payment Application Business Process (BP) in the Project/Shell.

The Payment Applications SOV type:

- Allows tracking of payment schedule against your commits similar to industry-standard forms.
- Lets you create a breakdown for line items.

The Payment Applications SOV sheet column structure uses Data Elements (DEs) from the Detail form. After the SOV template structure is set up for a Payment Applications SOV sheet, the rest of the SOV sheets are created based on the same structure.

Follow these steps to create a Payment Applications SOV sheet, manually:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select **Payment Applications**.
3. Select **New** to open the Select Commit window.
4. Select a Commit BP such as a Purchase Order and select **OK**. The SOV sheet is added to the log.

Note

If a BP has been set up to automatically create a Payment Applications SOV sheet upon the end step, the above procedure is not required.

From the right pane, **Schedule of Values: Payment Applications** window, you have the option to select the record number and open the base record. The *gear menu* () , for each SOV Base Record, lets you:

- **Open**
Open a record.
- **Permissions**
Set permissions to a record.
- **Open Base Record**
Open the base record.
- **Open Classic Interface**
Open the base record in Classic View.

In the **Schedules of Values** window of a base record, the **Ref** column displays information when you select an SOV line item type as individual Commit Lines. The **Ref** column is not displayed when you select an SOV line item type as Group by Commit Codes.

When you select a CBS Code, the tabs of the right pane are:

- **General** tab
- **Breakdown** tab
You can add breakdown for each row in the right pane, under the **Breakdown** tab.
- **Attachments** tab
The added attachments will be shown in a grid similar to cost sheet. You cannot add attachments in this tab.
- **Notes** tab
The CBS notes added in the cost sheet will be displayed here. You cannot add notes in this tab.

In the **Schedules of Values** window of a base record, the **Schedule Value** lists a series of values, when you select a value, the following tabs are displayed on the right pane:

- **Line Items** tab
The tab displays all the transactions in the cell.
- **Cell Details** tab
- **Attachments** tab
- **Notes** tab

You can reorder rows by drag and drop in the sheet, similar to General Spends SOV.

The columns with decimal values preserve, or maintain, the decimal values specified in the data element of the following business processes and SOV types:

- Schedule of Values (SOV) sheet: Payment Application and Summary Payment Applications
- Payment Application Line Items
- Summary Payment Application Line Items

As a result, the system will not round the decimal value to two decimals, for the preceding DEs.

Creating Summary Payment Applications SOV Sheet Structure

The Summary Payment Applications SOV is associated with the Base Commits, Change Commits, and Payment Applications Business Processes of Summary Application type.

You can access the Summary Payment Applications node based on your permission, which is set in Access Control.

The log (Schedule of Values: Summary Payment Application for <BP name>) is similar to the Payment Applications log, except the title. The log displays multiple application type.

In the log, you can create or update the structure of a Summary Payment Applications SOV sheet, related to a Base Commits Business Process of SOV Type = Summary Payment Applications. You also add items to, or remove items from, the columns and modify the SOV structure.

The following is a list of the default structure within a column:

- Ref.
- Cost Code [CBS Code/bitemID]
- Code Name
- Cost Line item Type [uuu_cost_li_type (Label comes from DE label of uuu_cost_li_type)]
- Description

Note

Different Summary Payment Applications might have different columns, but the default structure will always be the same.

You can modify the following default column names:

- Ref.
- Cost Line Item Type
- Description

To modify the default column names, use the Options tab of the SOV Structure Properties window.

Note

The Cost Code [CBS Code/bitemID] and Item labels will be based on the Cost Sheet and are disabled.

If you auto-populate the Payment Application with the Line Item fields from the Base Commits (done in Options tab of the Base Commits in uDesigner), these fields are available to be added as columns in the SOV.

Note

If there are any picker fields that refer to other sources, such fields cannot be added as a column. The drop-down list of the Auto-populate on Payment Application field includes the data sources.

Adding columns is similar to adding columns for Payment Applications SOV (including all Data elements from Payment Applications BP, and additional sources such as Scheduled Value, Commits Remaining Balance, and so on).

Additional system fields introduced in the Detail form of the Payment Application BP should be available to be added as columns.

 Note

Summary and Detail line items are displayed for the logical source that you have added to the SOV sheet, for example, Commits Remaining Balance.

From the right pane, **Schedule of Values: Summary Payment Applications** for <BP NAME> window, you have the option to select the record number and open the base record. The *gear menu* () , for each SOV Base Record, enables you to:

- **Open**
Open a record.
- **Permissions**
Set permissions to a record.
- **Open Base Record**
Open the base record.
- **Open Classic Interface**
Open the base record in Classic View.

When you open a record, in the **Schedules of Values: Summary Payment Application** window of a base record, the following toolbar options are available:

- **Refresh**
- **Print**
- **Find on Page**
- **Menu** 
This option enables you to export or access the record properties.

Use Expand All Groups  and Collapse All Groups  to adjust the list view.

When you open a record, in the **Schedules of Values: Summary Payment Application** window of a base record (Payment Application BPs of Summary Payment Application SOV type), the **Ref** column displays information when you select an SOV line item type as individual Commit Lines. The **Ref** column is not displayed when you select an SOV line item type as Group by Commit Codes.

When you select a CBS Code, the tabs of the right pane are:

- **General** tab
- **Attachments** tab
The added attachments will be shown in a grid similar to cost sheet. You cannot add attachments in this tab.
- **Notes** tab
The CBS notes added in the cost sheet will be displayed here. You cannot add notes in this tab.

In the **Schedules of Values** window of a base record, the **Schedule Value** lists a series of values, when you select a value, the following tabs are displayed on the right pane:

- **Line Items** tab
The tab displays all the transactions in the cell.
- **Cell Details** tab
- **Attachments** tab
- **Notes** tab

You can reorder rows by drag and drop in the sheet, similar to General Spends SOV.

Granting Permissions to Other Users

The SOV sheets can only be seen for project/shell-level Commit BPs. The following applies to the project/shell-level SOV sheets.

The creator of a Commit BP becomes the owner of the associated SOV sheet and can grant permission to other users to view or modify the SOV sheet.

Follow these steps to grant permissions to other users or groups:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select the applicable **Schedule of Values** log (for example: **General Spends**).
The SOV sheet displays a structure with fields that are populated by the values in the Commit BP.
3. Select the applicable record.
4. From the toolbar, select **Actions** and select **Permissions**, or select the *gear menu* (⚙️) and select **Permissions**.
5. Use the **Add** field or **Select** option to locate and select users or groups.
6. Select the permissions that you want to grant (All, **Modify Permissions**, **Edit Data**, or **View**).
7. Select **Save**.

Project Level or Shell Level SOV Sheets (Standard View)

The following details apply to logs of all the following types of the SOV Sheets:

- General Spends
- Payment Applications
- Summary Payment Applications

To open the SOV sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select the applicable SOV sheet, such as **General Spends**.

You will see:

- Toolbar options

- Grid
- Right pane

The following explains the toolbar options. The explanations for the grid and the right pane will follow.

Option	Description
Create	 Note This option is only available in toolbar of the General Spends type and the Payment Application type SOV logs. This option is not available for the Summary Payment Application type SOV log. Lets you create an SOV. This option is available only if: • You have permission to create an SOV. • There are Commits BP records (without a created SOV) in Terminal step. When you click Create, the Commits window opens that lists all the Commit BPs for which a Schedule of Value (SOV) has <i>not</i> been created. Use the Find on Page option to search for a particular Commits BP record. The column headers are according to the Commits BP log column headers in uDesigner. After you select a Commits BP record from the list, the system creates the SOV for the selected record.

Option	Description
Create Structure	You will see this option on the toolbar if: • You have permission to edit the SOV structure. • The SOV structure has not been created yet. The Create Structure option in the <i>General Spends</i> type SOV sheets: • When an SOV sheet has not been created and there are no General Spends SOV templates defined at the company-level (set up in the Templates module of Company Workspace), when you select this option, the system displays this message, "No General Spends SOV Template exists." • When an SOV sheet has not been created and there is one, or more, General Spends SOV template defined at the company level (set up in the Templates module of Company Workspace), when you select this option, you will see a list of templates that have been defined at the company level (set up in the Templates module of Company Workspace). When you select a template from this list, the system displays this message, "You may create only one SOV structure per project. Do you want to continue?" If you select Yes, the system creates a default SOV structure and displays this message, "Structure created successfully." The Create Structure option in the <i>Payment Applications</i> or <i>Summary Payment Applications</i> type SOV sheets: When you click Create Structure, the SOV Structure window opens. See Update Structure for the details on the SOV Structure window.

Option	Description
Update Structure	You will see this option on the toolbar if you have permission to edit the SOV structure when an SOV structure has been created. When you select this option, the SOV Structure window opens. The following elements are accessible in this window: • Add Column (+): When you select this option, the New Column window opens which lets you set the column properties. You can only edit fields that are allowed. • SOV Structure Properties (⌘): When you select this option, an overlay window (SOV Properties) opens which contains the following blocks: – General: Displays the Name and Description fields. – Labels: Displays all the fields in the Classic View of the Options tab (available through Update Structure, select File, and then select Properties). • Find On Page (≡ a) • Name column • Data Source column • Data Format column • Visible column For each SOV structure that is listed you have the following options: • Delete (🗑) • Reorder (≡): Lets you change the order of the structures in the list.
Actions	To access the Permissions window. Lets you open the Permissions window (similar to Non-Workflow BP or Cost Sheet log). You can use this window to grant or edit permissions to user or groups. All permission fields are read-only.
Refresh (🔄)	To update the list on the screen.
Print (🖨)	To print the items on the log.
Search (🔍)	To search for a SOV structure.
Find on Page (≡ a)	To find an item on the page.

When you open the SOV sheet from the **Schedule of Values** log, you will also see the grid and the right pane.

The grid displays the columns shown in the *General Spends* SOV sheet log (Classic View).

The right pane displays details related to a record and if there are no details, the following message, "You do not have any details for this view." is displayed on the screen.

SOV Sheet: Description/Breakdown Column

BP forms such as contracts are created with high-level descriptions (in the line items) during the beginning of the project life cycle, and after a contract is approved, the high-level description needs to be updated to provide more details (for example, explaining or adding the payments for the SOV).

Because it is important to be able to update the line items descriptions, after a contract is approved, the **Description/Breakdown** column will become editable.

Example

After a contract is approved and the SOV is created, the owner asks the contractor to update the SOV line items descriptions so that the owner can accurately determine the payments for those SOV line items.

Similarly, a user can add a breakdown to the SOV line items in the *General Spends* and *Classic Payment Applications type SOV Sheet*.

The length of the **Description/Breakdown** column is the same as the length for the short_desc field of the line item.

You can edit the description or breakdown in the following SOV sheet types:

- General Spends (within each individual Commit line item)
- Classic Payment Applications (within each individual Commit line item)
- Summary Payment Applications

Note

Only Users or Groups who have **Edit Data** at the record level, or **Full Access**, permissions will be able to edit, or modify, or update the data for the **Description/Breakdown** column.

The following explains how updating the description or breakdown will impact:

- Invoices already reached terminal status or end step
Records that already in terminal status or end step (where user cannot update line items) will not have any impact on the SOV line item description updates.
- Invoices that are in inflight status
When you modify or add a line item and edit the SOV picker for the records that are inflight status you will be able to view the latest SOV description for the lines.
- Invoice records
The SOV picker in line item for the new records will display the latest description for the SOV line item.
- Change orders selecting reference picker to update existing SOV line item
When you select a reference picker to update an existing SOV line item scheduled value the reference picker displays the latest description for the SOV lines.

There is no impact on existing change orders, where the SOV line items are not modified.

- Records created through CSV, Integration, Auto-creation, and BP Templates
All the invoices created using CSV import, CreateBPRecord, CreateBPRecord with attachments using REST V1/V2 services will show the SOV line items with the latest updated description, when the description is set to auto-populate in to the line items.

All the invoices updated using UpdateBPRecord, UpdateBPRecord with attachments using REST V1/V2 services will show the line items with updated SOV descriptions.

All the invoices created through auto-creation and BP Templates will have the latest descriptions for the SOV line items selected.

Note

Although the system supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is *only* supported for decimal or current amount DEs.

- **Breakdown name**
The **Breakdown** name can be updated in the SOV Sheet in the **Description/Breakdown** column. The breakdowns can be defined for an SOV line item and can be updated from the **Breakdown** tab.

Only Users or Groups who have **Edit Data** at the record level, or **Full Access**, permissions will be able to edit, or modify, or update the data in the SOV Sheet and the breakdown for the **Scheduled Values** and other direct entry columns.

When exporting the SOV summary sheet, the updated Description/Breakdown will be included in the exported file.
- **Audit Log**
The Audit log will display the updated description or breakdown. The Audit log will also display the old and new values.

For the Classic Payment Applications SOV sheet type, the following explains how updating the description or breakdown will impact:

- Payment Application records that have already reached terminal status or end step
Records that already in terminal status or end step (where user cannot update line items) will not have any impact on the SOV line item description updates.
- Payment Application records that are inflight and Draft status
When SOV restrictions are allowed
 - SOV sheet will be locked for the inflight payment records (accepted or nonaccepted state); therefore, the updated description will be displayed in the inflight payment record.
 - Draft payment records will show the updated description as well as other SOV merge updates.
When SOV restrictions are not allowed
 - Both inflight (accepted and nonaccepted) and draft payment records will show the latest description for the SOV lines.
- New Payment Application records
When a new Payment Application record is created, the new SOV line items that have been added to the payment grid will show the latest descriptions.
- Change orders selecting Reference picker to update existing SOV line item
When you select a reference picker to update an existing SOV line item or the **Scheduled Values**, the reference picker displays the latest description for the SOV line items.

Note

There will be no impact on the existing change orders, where line items are not modified.

- Change commits when updating committed line item
When updating a committed line item (by using selecting Add and then selecting the Modify Committed line item option) the commit line item picker window will show the updated description for both summary SOV line items and cost breakdown SOV line items.
- Records created through CSV, Integration, Auto-creation, and BP Templates
All the payments created using CSV import, CreateBPRecord, CreateBPRecord with attachments using REST V1/V2 services will show the SOV line items with the latest updated description, when the description is set to auto-populate in to the line items.

All the payments updated using UpdateBPRecord, UpdateBPRecord with attachments using REST V1/V2 services will show the line items with updated SOV descriptions.

All the invoices created through auto-creation and BP Templates will have the latest descriptions for the SOV line items selected.

Note

Although the system supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is *only* supported for decimal or current amount DEs.

- Audit Log
The Audit log will display the updated description or breakdown. The Audit log will also display the old and new values.

For Summary Payment Applications, the following explains how updating the description or breakdown will impact:

Note

You can update the description for both the Summary and Cost breakdown SOV line items, in the SOV Sheet.

- Summary Payment Application records that have already reached terminal status or end step
Records that already in terminal status or end step (where user cannot update line items) will not have any impact on the SOV line item description updates.
- Summary Payment Application records that are inflight and Draft status
When SOV restrictions are allowed
 - SOV sheet will be locked for the inflight payment records (accepted or nonaccepted state); therefore, the updated description will be displayed in the inflight payment record.
 - Draft payment records will show the updated description as well as other SOV merge updates.
 When SOV restrictions are not allowed
 - Both inflight (accepted and nonaccepted) and draft payment records will show the latest description for both the Summary and Cost breakdown SOV line items, in the SOV Sheet.

- **New Summary Payment Application records**
When a new Summary Payment Application record is created, the new SOV line items that have been added to the payment grid will show the latest descriptions for both the Summary and Cost breakdown SOV line items, in the SOV Sheet.
- **Records created through CSV, Integration, Auto-creation, and BP Templates**
All the payments created using CSV import, CreateBPRecord, CreateBPRecord with attachments using REST V1/V2 services will show the SOV line items with the latest updated description, when the description is set to auto-populate in to the line items.

All the payments updated using UpdateBPRecord, UpdateBPRecord with attachments using REST V1/V2 services will show the line items with updated SOV descriptions.

All the invoices created through auto-creation and BP Templates will have the latest descriptions for the SOV line items selected.

Note

Although uDesigner supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is *only* supported for decimal or current amount DEs.

- **Audit Log**
The Audit log (in the menu toolbar of the SPA SOV sheet) will display the updated description or breakdown for both the Summary and Cost breakdown SOV line items, in the SOV Sheet. The Audit log will also display the old and new values.

Managing SOV Structure, Templates, and Sheets

The following topics apply to all SOV sheets. This section explains the following:

- Editing SOV sheet
- Editing SOV columns
- Deleting SOV sheet
- Searching for SOV sheet
- Managing SOV sheet data
- Exporting SOV data
- Viewing and editing SOV sheet properties

Note

If you have Edit Data permission and you are working with the classic Payment Application, you can manually edit data for text-based columns and select different values for columns that use Pull Down data elements (DEs). This does not apply to Summary Payment Application (SPA) or General Spends.

Editing SOV sheet

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log.
The SOV sheet displays a structure with fields that are populated by the values in the commit BP.

Note

If SOV sheets related to your options are present, a structure exists and you can select Update Structure.

3. Select a record from the Schedule of Values log.
4. From the toolbar, select **Properties** to open the Properties window for the SOV sheet record that you want to edit.
5. Select the **Options** tab and proceed to edit the fields.

Note

You can enter a custom label for the **Ref**, **Breakdown**, and **Description** fields. These are the labels that will appear as column names on the SOV sheet. You cannot modify CBS Code and CBS Item. These labels can be modified only on the cost sheet.

6. Select **Close** to close the Properties window.
7. Select **Apply** and then select **OK**.

Editing SOV columns

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select **General Spends**, **Payment Applications**, or **Summary Payment Applications** to open the Schedule of Values log.
The SOV sheet displays a structure with fields that are populated by the values in the commit BP.
3. Select a record from the Schedule of Values log.
4. From the toolbar, select **Update Structure** to open the SOV Structure window for the SOV sheet record that you want to edit.

Note

If SOV sheets related to your options are present, a structure exists and you can select Update Structure.

5. Select **Columns**, and select a column from the Columns Log.
6. Select **Open** to open the Column Properties window and proceed to edit the fields.

Note

- Some fields may not be editable. It may be necessary to delete the column and create a new one.
- Although it is possible to change the entry method for a column (for example, from line item content to direct entry into a cell), use caution when doing so if you have already entered values in the column cells. For example, if you change from line item entry to direct cell entry, the amount value shown in the cell will display correctly. Because this field is an editable field, if you edit this field, the direct entry amount and detailed line item information will be lost.

To move a column, from the Columns log, select a column to move, and then select **Move Up (Left)** or **Move Down (Right)**. The order that the columns appear in the log is the order (from left to right) that they appear on the sheet.

To delete SOV columns:

1. Select a column from the Columns log, and select **Open** to open the Column Properties window.
2. Select **Delete**. The column will be deleted.

Note

If the column is being used in a formula in another column, you must remove the column from the formula before you can delete it. If the column contains a cell with line item data, you must first remove each line item before it can be deleted.

Deleting SOV sheet

Select the sheet from the log, and select **Delete**. If you delete an automatically created SOV sheet, you will have to recreate it manually.

Note

You cannot delete an SOV for Payment Applications.

Searching for SOV sheet

You can search for SOV sheets by the SOV Base Record or SOV Description.

1. In the Schedule of Values log, select **Find**.
2. In the Search by drop-down list, select **SOV Base Record** or **SOV Description**.
3. In the Search for field, enter the search criteria, and select **Search**. The log will display the records meeting the search criteria.

Managing SOV sheet data

SOV data is rolled up from Cost-type BPs that have been set up for SOV sheets. As a result, the SOV sheets cannot be edited.

Exporting SOV data

You can export SOV data to a local file system in a CSV format.

1. Select an SOV Base Record and open.
2. In the Schedule of Values window, select **File**, and then select **Export** (or select Export from the toolbar).
3. Open the file and review it before saving.
4. Select **Save**, and specify the location in which to save the CSV file.

Viewing and editing SOV sheet properties

To open the SOV Properties window:

1. From the SOV log, select an SOV sheet, and select **Properties**. The Properties window opens.
2. Select the tabs to view properties information.

To edit SOV sheet properties:

1. From the toolbar, select **Update Structure**.
2. Select **File**, and then select **Properties**.
3. Select the **Options** tab to modify information.

You can enter a custom label for the Ref, Breakdown, and Description fields. These are the labels that will appear as column names on the SOV sheet.

Note

You cannot modify the CBS Code and CBS Item labels here. These labels can only be modified in the cost sheet.

Adding or Deleting CBS Breakdowns on an SOV Sheet

CBS breakdowns can be added to an SOV sheet. This enables each contract to have its own set of CBS breakdowns. These breakdowns can be added directly on the SOV sheet, or they can be imported from a CSV file. Breakdowns can be added to general spends or payment application SOVs.

Note

You cannot add a breakdown to an SOV if there is a pending spends record against the row, or a pending change commit with a negative line item (which may potentially reduce the Schedule Value after routing).

To add a breakdown to an SOV line:

1. Open the SOV sheet.
2. Select **Rows**. The Rows window opens.

3. Select an SOV line by selecting the checkbox. If you select an SOV line, the breakdown will be added to that line. If you select an existing breakdown, the new breakdown will be inserted directly below the existing breakdown.
4. Select **Add Detail**. The Details window opens.
5. Enter the **Breakdown**.
 - This will appear on the SOV sheet in the **Breakdown** column.
 - You can add an optional **Description**.
6. Select **OK**. The breakdown is added to the sheet.
7. Close the Rows window.
You may need to select the plus (+) by the checkbox on the Rows window and on the SOV sheet to expand rows and display the breakdowns.

To delete a breakdown row:

1. Open the SOV sheet.
2. Select **Rows**. The Rows window opens.
3. Select one or more breakdown rows to delete.
4. Select **Delete Detail**. Select **Yes** to confirm.

Adding Breakdowns to SOV sheet by Importing

If you have multiple breakdowns to enter, you can do it in bulk through CSV file import. You can add as many breakdowns as you need to multiple CBS codes.

You can also optionally enter breakdown scheduled value amounts. To do this, there must be a column to the SOV sheet using the data source Scheduled Value. The amount you enter on the CSV file will appear in the Scheduled Value column.

Note

By default, the Scheduled Value column will validate that the sum of all breakdowns added to an SOV line will not exceed the scheduled value for summary line. That is, if the scheduled value for a line is \$1000 from the base commit record and you add breakdowns, the amounts that you enter for the breakdown amounts for that line cannot add up to more than \$1000. (It can, however, add up to less than \$1000.)

To add breakdowns by importing a CSV sheet:

1. Open the SOV sheet.
2. Select **Rows**. The Rows window opens.
3. Select **Export**, and choose **Breakdowns**.
4. Save the CSV file. This provides the structure for the import file.
5. Add the breakdown rows to the CSV file.
 - a. Open the CSV file.
 - b. Insert a line under the CBS code to which you are adding the breakdown.

- c. Add the breakdown name in the **Breakdown** column. You can enter an amount in the **Scheduled Value** column. Do not add any additional information in the new row.
 - d. Add additional breakdown rows as needed.
 - e. Save the file.
6. On the SOV sheet, select **Import**.
 7. Browse to the CSV file, and select **OK**. The breakdowns and amounts will be added to the sheet. Any breakdowns in the CSV file that exist on the sheet will be updated with the **Scheduled Value** amount on the CSV file.

If any errors occur, download and open the error file, and correct the CSV file before reimporting. Validations include:

- The sum of breakdown amounts cannot add up to more than the scheduled value amount of the summary CBS code line
- They cannot exceed Commits Remaining Balance, if used
- They cannot cause Commits Remaining Balance to fall below zero.

Funding Sheet

Funding lets you track where project/shell funding comes from and how it is being spent. This feature is accessed by way of the **Funding** sub-node under the **Cost Manager** module or node.

A Funding Sheet tracks Company funding through allocation to, and consumption at, the project level.

Use the Funding Sheet to specify the appropriation and assignment of funds from each source. You can automate fund appropriation and assignment when used with Cost business processes.

Company Funding Sheets

The Company Funding Sheet tracks all sources of funding across all projects/shells. You create only one sheet per company. Funding sources that are made available at project/shell sheet level are rolled up to the company sheet, which maintains the overall fund information. After it has been created, the Company Funding Sheet can be edited, but not deleted. The Company Funding Sheet must be created before creating individual Project/Shell Funding Sheets.

Project/Shell Funding Sheets

The Project/Shell Funding Sheet tracks how funding is being allocated and consumed at the project/shell level. Project/Shell Funding Sheets work in conjunction with the Company Funding Sheet. Allocating funding sources at project/shell level can be done manually or through a business process. A funding template and Company Funding Sheet must be complete before you can create a Project/Shell Funding Sheet.

Note

Filters that you set up in the shell template for a Funding Sheet are not currently included in the Project/Shell Funding Sheet.

Funding Sheet and Commitment Funding Sheets

You can optionally set up commitment level funding, which allows you to allocate specific project/shell funds to individual base commit records. This works in conjunction with the SOV sheet to track base and change commit lines and balances.

Company and Project/Shell Funding

- **Design and import a fund attribute form in uDesigner.** This will be used as the Fund Details window when adding new funds to the Company Funding Sheet or viewing fund properties. A fund picker, used to add funds to business processes or the Project/Shell Funding Sheet, can also be designed. This is an optional step. If you do not create a fund attribute form, a default fund code form and fund picker will be used.
- **Import and set up fund business processes.** You can use business processes for fund allocations, fund assignment (consumption), and fund credits.
- **Create and set up the Company Funding Sheet.** The Company Funding Sheet tracks the funds that can be used to fund project/shell expenses. The following procedures assume that the rows (funds) and columns of the Funding Sheet have already been created.
- **Create and set up the Project/Shell Funding Template and Sheet.** The Project/Shell Funding Sheet tracks the funds that have been allocated from company funds for a particular project/shell. The Project/Shell Funding Sheet is based on the funding template, which is created first. The following procedures assume that the Project/Shell Funding Sheet has been created, and rows and columns have been added.

Note

- The rows correspond to funds chosen from the Company Funding Sheet. Funds can be added manually, or can be added via fund allocation business processes, discussed later in this section.
- Filters that you set up in the shell template for a Funding Sheet are not currently included in the Project/Shell Funding Sheet. To use filters, you must set them up in the Project/Shell Funding Sheet. For more information, see [Searching for Fund Codes](#) and [Creating and Applying Filters](#).

- **Define funding assignment rules.** Funding assignment rules are set up in the Project/Shell Funding Sheet or template. These determine which business processes are used for fund appropriations and assignments and how to consume funds (ratio or fund order) if you will be using automatic fund assignment from business processes. The following procedures assume these options have been set up.
- **Create funding rules in the rules engine.** Optionally, funding rules can be created in the rules engine that can help you manage your funds and fund balances, for example, to prevent fund balances from becoming less than zero.

Commitment level funding

Optionally, funding at the base commit (contract) level can be set up.

Commitment funding works in conjunction with the **Schedule of Values (SOV)** sheet. SOV line items have an impact on the commitment funding sheet and its data through fund assignment.

Before you begin. Be sure that the project/shell funding has been set up, with funds allocated and available on the project/shell funding sheet. Data sources are available for project/shell

funding sheets (and company funding sheets) to track funding that is assigned for specific base commits. Also, be sure the data source **Scheduled Value** has been added as a column to the SOV structure for the project/shell. Commitment funding uses the SOV to track base commit and change commit amounts and uses the **Scheduled Value** column to track remaining balances.

- Import and set up business processes for commitment funding. In addition to business processes that are used for project/shell funding, you can design business processes for use with commitment funding. In uDesigner, commitment funding is enabled on the base commit; automatic generation of an SOV must also be enabled. Then, the ability to view or assign funds is enabled per step on the base commit and the corresponding change commit. Be sure the linked spends business process has been enabled to consume funding.
- Create and set up Commitment Funding Template. This template is used to create a commitment funding structure in the project/shell, which in turn is used to create the individual commitment funding sheets for each base commit record. These procedures assume a template has been created and set up with columns.
- Define funding assignment rules. This is done in the Assignment tab of the Properties window. Assignment rules can be defined in the commitment funding template, structure, or sheets. (This procedure assumes assignment rules have been defined in the template and will be copied to the structure and individual sheets.)
- Create Commitment Funding Sheet Structure. Structures are created at the project level in user mode from a commitment funding template. When commitment funding sheets are created from base commit records, this default structure is used. Details about creating commitment funding structures from an existing template are found later in this section.
- Create individual commitment funding sheets. This is done automatically the first time you select Funding on a base commit business process form (this button becomes available on specific steps as designed). After creation, the commitment funding sheet is available for viewing or modification by selecting Funding on the base commit or associated change commits, or from the Commitment Funding log itself. Details about creating commitment funding sheets is found later in this section.
- Configure permissions. In addition to module level permissions that are needed to create and modify templates, structures and sheets, record level permission must be granted to individual commitment funding sheets. By default, the owner of the base commit will have permissions to the sheet. Additional users must be granted view or edit permissions. This is discussed later in this section.

Company Funding Sheet, Project/Shell Funding Sheets, and Commitment Funding Sheets

The first step to setting up funding is to create and set up a Company Funding Sheet, where individual funding sources are set up.

For example, a corporation's funding sources may include different types of corporate accounts. For municipal or educational facilities, funds may come from bond measures, grants, donations, or other sources. All these funding sources will be listed and tracked on the Company Funding Sheet. As funds are consumed via business processes or manually in individual projects/shells, this data is rolled up to the Company Funding Sheet.

Project/Shell Funding Sheets track how your company's funding is being spent on each project/shell. It tracks individual transactions, which are rolled up to the Company Funding Sheet. All Project/Shell Funding Sheets must be created based on a funding template.

Note

Filters that you set up in the shell template for a Funding Sheet are not currently included in the Project/Shell Funding Sheet. To use filters, you must set them up in the Project/Shell Funding Sheet. For more information, see [Searching for Fund Codes](#) and [Creating and Applying Filters](#).

If you are using commitment funding, you will create a commitment funding template, which is used to create the commitment funding structure within a project/shell. As base commits (that are designed for commitment funding in uDesigner) are routed and approved, a Commitment Funding Sheet is created, based on this structure, for each base commit record.

Working with the Company Funding Sheet

The following procedures described managing funds on the company funding sheet.

Company Funding Sheet Log

To access the Company Funding Sheet log:

1. Go to your **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Funding**.

When you double-click the funding sheet, the **Company Funding Sheet** window opens.

Alternatively, you can use the *gear menu* (⚙️) to open the funding sheet. The **Company Funding Sheet** window displays the fund codes and other details about the fund sheet and contains the following toolbar options:

Add Rows

Lets you access the Fund Attributes window and add a new row to the fund sheet after entering the fund details.

Add Column

Lets you access the New Column window and add a new column to the fund sheet after entering the column details. After you select the data source, the remaining data will auto-populate; however, you can change the values of the fields, if there is a need. This window also lets you select the position of the newly added column, in the funding sheet.

View

Edit View

Lets you add or move columns from the fund sheet.

Refresh

Print

- **Print**
- **Export To CSV**
- **Export To Excel**

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Find on Page**Menu Options**

- **Import**
- **Export**
 - **Summary Fund Sheet**
 - **Fund Details**
- **Fund Status:** Lets you open the **Fund Status** window and either change the status for the fund codes or delete unwanted fund codes. Use the Find on Page option to find a particular fund code.
- **Properties:** Lets you open the **Properties** window and determine the fund sheet properties, including the two display modes, **Flat** or **Tree**.
- **Audit Log**

In the **Company Funding Sheet** window, you can customize the columns, except the first two columns (**Fund Code** and **Fund Name**).

Note

You can use the **Lock after this Column** option, explained below, to add to the stationary columns; however, the two first columns shall remain on the sheet by default.

Select a fund code to split the screen and access the properties of that fund code, within the following tabs:

- **Fund Attributes**
- **Audit Log**

You can use these tabs to update the details of the fund code.

The details of your changes will be recorded in the **Audit Log** tab. You can print or export (by way of the Print option on the **Audit Log**) the audit log data.

The fund sheet window (**Company Funding Sheet** log) has multiple columns. As stated before, the first two columns are stationary, and the other columns can be customized. You can hover over a column header to see additional information about the field. For example, if you hover over the **Approved Appropriations** column heading, you may see the Data Source and

Data Format information for the "Approved Appropriations." If you right-click a column header, the following options let you manipulate the selected column:

- **Hide**
- **Delete**
- **Lock after this Column**
- **Insert:** Lets you insert a new column.
- **Unhide**
- **Properties:** Lets you open the **Columns Properties** window and access all the properties of the selected column. Use the navigation icons ( and ) to move to and access the next or previous column properties.

You can select a cell for a fund code, and see the different line items for that fund code, in the properties screen, within the Line Items tab. In this tab, you can use the toolbar to access **Add Lineitem** , **Delete Lineitem** , **Find on Page** , and **Print** . You can use the *gear menu* () to access **Copy** and **Delete** for a specific line item. When you select a line item and select **Copy**, a copy of the selected line item will be inserted at the last row; you can then change the values of each cell within the added row. Use **Find on Page** to search for a particular line item in the **Line Items** tab.

When you select a cell, for a fund code, you can select the **Cell Details** tab to see the cell details such as values for the **Fund Code**, **Fund Name**, and so forth.

You can use the **Attachments** tab to include attachments (using the **Browse** option or the **Document Manager** option), the **Notes** tab to include notes, and the **Audit Log** tab to access the details of the changes made to the line item.

Use **Expand**  and **Dock Right**  or  to adjust the location of the tabs on your screen.

The following topics provide additional information about the **Company Funding Sheet** log.

About company funding sheet columns

The columns on the company funding sheet are used to track project/shell-level funding and keep track of fund balances.

A common way to enter the starting value of a fund is by adding a Company Funding column to the company funding sheet. This is generally a manual entry column (either direct entry or line item entry). The original value of each fund (one fund per row) is entered into this column.

Additional columns commonly track fund assignments (consumption) made against each fund in projects/shells. These can be in the form of business process transactions or manual funding assignments. Each project/shell level business process or manual entry column can be rolled up to the company funding sheet separately, or project/shell fund assignments can be totaled in the project/shell sheet and rolled up to the company sheet. A good practice is to have a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund. A rule can be created in the Rules Engine to make sure that this fund balance never becomes less than zero (or other specified value).

To view column details:

In the funding sheet, select a column header link to view the column details. This will display the data source and, for formula columns, display the formula used.

About company funding sheet rows

Each row in the company funding sheet corresponds to one fund. Depending on how the company funding sheet is set up, the starting value of each fund may need to be manually entered. This is commonly done in a column using the Company Funding data source.

If you are working with many funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see [Searching for Fund Codes](#) and [Creating and Applying Filters](#).

To view fund details:

In the funding sheet, select the fund code link (in the **Fund Code** column) to open the Fund Details.

- If a **Fund Attribute** Form has been designed, this window shows the fields on the form.
- If a **Fund Attribute** Form is not being used, the default window opens, showing basic information such as the fund code, fund name and description.

Add currency amounts to company funds

After the company funding sheet has been set up, the funds must be "funded"; that is, you must enter the funding amounts that will be used to fund your projects/shells. Commonly, the Company Funding data source is used as a manual entry column to enter the starting amount of each fund or add additional funds to it. This column can be direct entry or line item entry.

This procedure assumes the funds have already been added to the sheet. It also assumes that a column has been added to the sheet for manual fund entry. Commonly, this uses the **Company Funding** data source. You can select a column heading to verify the data source used.

To add a value to a company fund:

1. Go to your **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Funding**.
3. Open the company funding sheet.
4. Locate the column that is used for adding value to company funds on the sheet, commonly, the **Company Funding** column.
5. Do one of the following:
 - If the column is direct entry, select inside the cell, and enter the amount. If the cell already has a value, you can modify it.
 - If the column is line item entry, select the link in the cell. The Cell Detail window opens in which you can take these actions.
 - Select **Add Line Item** to add a new line item.
 - Select a line item, and select **Copy Line Item** to add a line item by copying another.
 - Double-click an existing line item to modify it.
 - Select a line item, and select **Remove Line Item** to remove it.

6. Enter the line item information in the Line Item window, and select **OK**.

The amount in the **Company Funding** column can be used as the starting amount of a fund. Other columns on the company funding sheet can be used to roll up transaction and manual funding amounts from project/shell funding sheets, and formula columns can be added to keep track of the fund balance.

Activate or deactivate company funds

You can active or deactivate company funds, which controls their availability for project/shell funding. If you set a fund to "Inactive" at company level, that fund will no longer be available for project/shell-level funding sheets; however, if a fund is already listed on a project/shell funding sheet, inactivating the fund at the company level will not affect the fund.

To set the company fund status:

1. Go to your **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Funding**.
3. Open the company funding sheet.
4. From the toolbar, select **Menu Options** () , and then select **Fund Status**. The Fund Status window opens.
5. Select a fund in the table, and then select **Activate** or **Deactivate**.
6. Select **Close** to exit the window.

Import or export Company funding sheet information

You can export a summary of the funding sheet, which creates a CSV file that contains the rows, columns, and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window. This is available in company, project, and shell funding sheets.

You can also import fund details to a company funding sheet. This lets you add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

For details, see [Importing and Exporting Project/Shell Funding Sheet Information](#).

Working with Project or Shell Funding Sheets

The Project/Shell Funding Sheet tracks how funding is being allocated and consumed at the project/shell level. Project/shell funding sheets work in conjunction with the company funding sheet.

Fund allocation, assignment, and credits can be done manually, or through business processes.

Note

Because funding originates at the company level in the company funding sheet, funding is always done in base currency, even if the project currency is different.

Open a project or shell funding sheet

The project or shell funding sheet is accessed from the **Funding Sheet** log.

Note

There is only one funding sheet per project/shell.

To open a project or shell funding sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Funding**, and then select **Funding Sheet**. The **Funding Sheet** log opens.
3. Select the *gear menu* () , and select **Open**.

The **Funding Sheet** window has the following, typical, page headers:

- Funding Sheet
- Currency
- Unassigned (Project Level)
- Commitment Level
- CBS Level

The **Funding Sheet** window has the following toolbar options:

Note

For projects that do not have funding sheet, you can use the **Create** toolbar option (in **Funding Sheet** window) to create a funding sheet. The **Create** option will not be displayed for the users with View permission. To create a funding sheet, select **Create** to open the **Select Template** window and select a template.

Funding Sheet Window Toolbar Option	Description
Manage Rows 	Opens the Manage Rows window which lets you manage the displayed rows based on the available company fund codes.
Add Column 	Opens the New Column window that lets you enter data about the new column.
View	• Default • Create New View • Manage Views
Edit View 	Opens the Edit View window which lets you manage the displayed view based on the following tabs: • Columns • Filters • Group By • Sort By

Funding Sheet Window Toolbar Option	Description
Fund Assignment Order	Opens the Fund Assignment Order window which lets you manage the order for: • Fund Code • Fund Name • Status • Reorder: Bring the pointer to the cell to activate the move-pointer, select and hold, and move the row to a desired location.
Refresh 	Lets you refresh the contents of the Funding Sheet window.
Print 	• Print • Export To CSV • Export To Excel Note • For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. • If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
Find on Page 	Lets you find a particular record on the page.

Funding Sheet Window Toolbar Option	Description
Menu Options 	• Export – Summary Fund Sheet – Fund Details • Row Coloring – Multi-Color – Single Color • Properties • Audit Log

Create and Edit Transactions

You can manually enter transaction line item.

Note

Including attachments is not permitted in line items. Cloud customers who have migrated to the 20.6 version of Unifier will not be able to see the previous attachments or add new attachments post migration.

About project/shell funding sheet columns

The columns on the project/shell funding sheet are used to track the funding on that project/shell, and to keep track of the fund balances that have been appropriated for its use.

Commonly, the Project Funding column is used to enter the allocation amount of each fund for that project/shell.

Additional columns commonly track fund assignments (consumption) made against each fund. These can be in the form of business process transactions or manual funding assignments, with one column for each business process, and manual entry columns for project level funding and CBS level funding.

The Records Funded at Project Level (or CBS Level) column(s) can be used to track the totals of business process transactions involving fund assignment. This is used for records already reaching terminal status. The Transient Records Funded at Project Level (or CBS Level) column(s) works similarly, but is used for records that are currently in process, and have already been funded before reaching terminal status. These columns can also include any credited funding that may occur due to invoice credits or other negative amounts.

Commitment level funding can be tracked on the project/shell funding sheet using the columns Commitment Funding (tracks funds that are allocated across base commit and change commit business process records enabled for commitment funding), Records Funded at Commitment Level (sum of all spends records that are funded at the commitment level), and Transient Records Funded at Commitment Level (sum of all in-process records that are funded at the commitment level).

A good practice is to add a fund balance formula column that tracks the difference between the original fund value minus all funding assignments, which provides a running balance for each fund.

To view column details:

In the funding sheet, select a column header link to view the column details. This will include the data source and, for formula columns, display the formula used.

About project/shell funding sheet rows

Each row in the project/shell funding sheet corresponds to a fund that has been allocated for use on this project/shell. Each fund originates on the company funding sheet.

Fund allocation can be done manually, by adding rows to the project/shell funding sheet. A fund picker is used to select which funds from the company funding sheet to add.

Funds can also be allocated to a project by using a fund allocation business process that is designed to choose the funds and funding allocation amounts for the project/shell.

For manually allocated funds, the starting amount of each fund can be entered manually. Commonly, the Project Funding column is used to enter the starting value of each fund when funds can be used for the project regardless of CBS code, or the CBS Funding column is used when funding is specified per CBS code. These values can roll up to the company funding sheet column of the same data source.

If you are working with many funds, there are ways to help you find the fund that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet. For more information, see [Searching for Fund Codes](#) and [Creating and Applying Filters](#).

To view fund details:

In the funding sheet, select the fund code link (in the Fund Code column). The Fund Details opens. If a Fund Attribute Form has been designed, this window will include the fields added to the form in the design. If a Fund Attribute Form is not being used, the default window opens, listing basic information such as the fund code, fund name and description.

View Project/Shell funding sheet properties

The Properties window defines general setup information and assignment details for the funding sheet.

To view project/shell funding sheet properties:

1. In the project/shell Funding log, select the funding sheet, and select **Properties**. The Properties window opens.
 - The General tab defines the Title, Description and Display Mode for the sheet. If you have edit permissions, you can edit these, including switching back and forth between the display mode options as needed.
 - The Assignment tab is used to define the funding assignment options:
 - **Project and CBS Level:** Specifies the sources of fund allocation for the project/shell, either manual entry or via fund appropriation business processes.
 - **Assignment Levels and Rules:** For each funding business process that has been set up for the project/shell, this specifies how funds are assigned, either manually, Auto Order, or Auto Ratio:

For more information, see [About Project/Shell funding assignment options](#).

2. Select **OK** or **Cancel** to close the window.

About Project/Shell funding assignment options

Funding assignment options for the project/shell are defined on the Assignment tab of the Properties window. (Open the funding sheet, select **File** and then select **Properties**.) This includes defining how fund allocation can be done, specifying whether manual assignment is allowed, defining the business processes that can be used to assign funds to projects/shells or to specific CBS codes, and defining assignment levels.

Project Level and CBS Level: Specifies how funds can be added for this project/shell. This can be Manual (appropriate funds manually from the company funding sheet) or through funding appropriation business processes.

You can define funding appropriations at the project level (not associated with specific CBS codes), and at the CBS level (funding is specified per CBS code). You can "mix and match" for each project, with some business processes using project level funding, and others CBS level. Manual fund appropriations can be done at both levels.

Assignment Levels and Rules: Specifies how assignment is done for each funding business process that has been set up for the project/shell: Manual, Auto Order, or Auto Ratio. It also specifies whether funds are assigned at the Project Level (funding is consumed based on the total of the spends business process, providing greater flexibility for fund assignment), or CBS Level (funding is consumed per line item of a spends business process, which provides greater control over how funds are spent on each item.)

- **Manual:** Funds can be manually assigned. As spends business processes (for example, invoices or payment applications) are routed and reach specified statuses, the amounts to be funded are collected under the Unassigned total on the funding sheet. A **Funding** button becomes available on the business process form. Selecting the button opens the Funding window, in which funds can be assigned.
- **Auto Order:** Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund order, which is defined on the funding sheet by selecting the **Fund Assignment Order** button. When funds are consumed on one fund, the next funding source is used for funding. After all funds are consumed, remaining spends are collected under Unassigned.
- **Auto Ratio:** Funds are assigned automatically when a spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is automatically calculated based on current fund levels. After all funds are consumed, remaining spends are collected under Unassigned.

View funding sheet cell details

The values displayed in a cell on the funding sheet may reflect information from multiple line items, business process transactions, or results of a calculation from other cells. The following procedures discuss how to view the details about an entry in a funding sheet cell.

To open the Cell Details window:

In the Funding Sheet window, select the link in the line item cell to view information. The Cell Detail window opens.

To view manual line item entry details:

In the Cell Detail window, double-click a listed line item. The Line Item window opens.

To view business process transaction details:

1. In the Cell Detail window, double-click a listed line item. A view-only copy of the business process transaction opens.
2. Double-click a line item. The Line Item window opens.

To view formula cell details:

In the Cell Detail window, if line items from manual-entry columns or business process transaction columns are included in the calculation, they will be listed in the lower portion of the window, with the calculated value for each line item.

1. Select a listed line item. If the line item is a BP transaction, the business process form opens. If the line item is a manual entry, the Line Item window opens.
2. To view the formula used for the column, select the **Formula** link.

View Audit Logs

Audit logs are available within the Fund Detail and Cell Detail windows of the project/shell funding sheet. The Audit log captures all the events that took place, including what action occurred, who took the action, and the value that was created or modified.

To view the project/shell funding audit log:

Open the project/shell funding sheet and do one of the following:

- From the View menu, select **Audit Log**.
- Select a listed fund to open the Fund Detail window, and then select **Audit Log**.
- Select a cell link (line item or project/shell allocation entry) to open the Cell Detail window. From the View menu, select **Audit Log**.

To view commitment funding audit logs:

Open the commitment funding sheet and do one of the following:

- From the View menu, select **Audit Log**.
- Select a listed fund to open the Fund Detail window, and then select the **Audit Log** button.
- Select a cell link (line item or project/shell allocation entry) to open the Cell Detail window. From the View menu, select **Audit Log**.

To view an audit log of company funding:

Open the company funding sheet and do one of the following:

- From the Funding Sheet View menu, select **Audit Log**.
- Select a listed fund to open the Fund Detail window, and then select **Audit Log**.
- Open the Cell Detail window. From the View menu, select **Audit Log**.

The Audit log captures all the events that took place, including what action occurred, who took the action, and the value that was created or modified.

Allocating Funds to a Project or Shell

This section discusses fund allocation. Allocation refers to reserving a certain amount of a company fund to a particular project/shell.

Funds can be allocated to a project/shell either by manually adding rows to the project/shell funding sheet and entering allocation amounts, or through business processes transactions, which automatically add the rows and allocation amounts.

To review information about Schedule of Values (SOV) Sheets and Business Processes, see the *Unifier Business Processes User Guide*.

Fund allocation can be done at the project/shell level (funds are available to any expense in the project/shell), or at the CBS level (funding is allocated per CBS code).

Manually enter project/shell fund allocation amounts

After the project/shell funding sheet has been set up, the funds must be "funded"; that is, you must enter the funding amounts that will be used to fund your projects/shells. The following procedures discuss manually allocating funds and entering amounts to the funds that will be used in the project/shell. (Fund allocation using business processes is discussed in a later section.)

Commonly, the Manual Funding By Project data source is used as a manual entry column to enter the starting amount of each fund or add additional funds to it. This column can be direct entry or line item entry and is used for project level fund allocation. The Manual Project by CBS data source can be added to the project/fund cost sheet, and values added there. The same column data source can be added to the project/shell funding sheet to display the values added to the cost sheet column. This is used for CBS level fund allocation.

The following procedures assume that the appropriate funds (rows) and columns have already been added to the funding sheet. You can select a column heading to verify the data source used.

To enter project level fund allocation values (on the funding sheet):

1. Open the project/shell funding sheet.
2. Locate the column that is used for adding value to funds on the sheet, commonly, the **Manual Funding by Project** column.
3. Do one of the following:
 - If the column is direct entry, select inside the cell, and enter the amount. If the cell already has a value, you can modify it.
 - If the column is line item entry, select the link in the cell. The Cell Detail window opens. You can:
 - Select **Add Line Item** to add a new line item.
 - Select a line item, and select **Copy Line Item** to add a line item by copying another.
 - Double-click an existing line item to modify it.
 - Select a line item, and select **Remove Line Item** to remove it.

Enter the line item information in the Line Item window, and select **OK**.

This amount can be used as the starting project level amount of a fund. Other columns on the funding sheet can be used to track transactions, and formula columns can be added to keep track of the fund balance.

To enter CBS level fund allocation values (on the cost sheet):

1. Open the project/shell cost sheet.

2. Locate the column that is used for adding value to funds by CBS code, commonly, the **Manual Funding by CBS** column.
3. Select the link in the cell. The Cell Detail window opens. You can:
 - Select **Add Line Item** to add a new line item.
 - Select a line item, and select **Copy Line Item** to add a line item by copying another.
 - Double-click an existing line item to modify it.
 - Select a line item, and select **Remove Line Item** to remove it.
4. Complete the Line Item window.
5. Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, select **Find**.
6. Select **OK**. The new line item will be added to the Cell Detail window. If the **Manual Funding by CBS** column has also been added to the project/shell funding sheet, the value will display there.

To add funding sheet data through a formula:

Formula columns calculate results based on data entered in other columns. You cannot enter data directly into a formula column. You may select the funding sheet column header to view the data source for the cells in the column. If the column is a formula column, it will be displayed, and you can view which other columns are used in the calculation.

Allocate funds through business processes

Funds can be allocated to a project/shell using a fund allocation business process, which was defined in uDesigner. Following is a summary of the business process types and design options that may be used:

- **Project level:**
 - Cost type, subtype line items with fund code, classification generic.
 - Workflow or non-workflow
- **CBS level:**
 - Cost type, subtype line items with CBS and fund code, classification generic.
 - Workflow or non-workflow

Commonly, columns are added to the funding sheet to capture funding allocation business process transactions. The Project Funding column might be used (as a formula) to capture the sum of all allocations and manual allocation for each fund.

To allocate funds and enter amounts through a business process:

1. Create the business process record.
2. Add line items as necessary.
 - Select a fund from the fund picker by clicking the **Select** button for the Funding Source. The fund picker lists the funds that are active at the company level. To search for a specific fund, select **Find**.
 - The Line Item window may also include a CBS picker, for CBS level allocations.
3. Route the business process record as usual.

Assigning and Crediting Project/Shell Funds

This section discusses assigning (consuming) funds on project/shell funding sheets. When funds are "assigned," it means they are consumed from the allocated amount for that project/shell. Funds can also be credited back to the source when necessary.

Fund assignments are based on spends type business processes within the project/shell (for example, invoices or payment applications), which enables accurate funding and tracking of project expenses. Funds are assigned based on the amount of a spends record and can never exceed that amount. The behavior of funding business processes depends both on the design options chosen and the Assignment Levels chosen on the project/shell funding sheet properties.

Funding assignments are based on business processes transactions, and commonly, columns are added to the funding sheet to track spends business processes eligible for funding. Formula columns may also be added to track the totals of these records, which may include Records Funded at Project Level (or CBS Level), for completed records; and Transient Records Funded at Project Level (or CBS Level), to track funding on records that are funded while in process. Values can also roll up to the company funding sheet if the same data source columns are added.

View Unassigned Amounts

When spends business processes are set up to be funded manually, the amount of the record initially is captured in one of the Unassigned fields on the funding sheet. This value displays until the entire amount of the record has been fully funded. For Project level funding, the amount displays in the Unassigned (Project Level) field; for CBS level funding, the amount shows up in the Unassigned (CBS Level) field.

If commitment level funding is being done, you may also see an amount under Unassigned (Commitment Level). These funds are managed on the commitment funding sheet.

It is possible that an Unassigned amount can be negative, as the result of a credit invoice that has not yet been credited back to the funding source.

Note

These can also be rolled up to the cost sheet using the Unfunded Record data source.

To view unassigned amounts:

1. Open the project/shell funding sheet.
If business process transactions have occurred that have not yet been funded, the total of the record(s) will display in one of the Unassigned fields in the upper portion of the sheet.
2. Select the link next to **Unassigned (Project Level)** or **Unassigned (CBS Level)**.
The Manual Fund Assignment window opens. This window lists transaction records that have not yet been fully funded.

Manual and Automatic Fund Assignment

Funding assignments can be done automatically or manually. This is set in the funding assignment levels in the funding sheet properties.

Manual Fund Assignment

For manual assignments, and depending on the design of the business process, the following may occur:

- You may be able to view or perform funding assignments or credits at any step in the workflow (or for a non-workflow business process, any status). When the business process is in process, it is referred to as a "Transient Record." This allows the record to be funded, edited, and reviewed before the record is finalized and closed.
- When funding is enabled (or can be viewed), a Funding button appears on the business process form. Select the button to open the Funding Window.
- It is possible that the business process can be designed to disallow funding assignments or credits at the end step (or terminal status if non-workflow). This option prevents further editing of funding assignments or credits after the record has gone through a review process.

Good practice tips

Review the invoice line items and be sure they are accurate before doing funding. A good practice for design is to disallow line item from being edited after fund assignment steps. This will prevent the invoice line items from being edited after funding has already been assigned.

Manual Fund Assignment at Funding Sheet Level

To assign funds manually, you must access the **Funding Sheet** log, and then use the **Fund Code** to assign the funds.

To access the Funding Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Funding**, and then select **Funding Sheet**.
3. In the Funding Sheet log, double-click the Funding Sheet.
4. Under the **Fund Code**, select an item.
5. On the top of the screen, select **Unassigned (Project Level)** link to open the **Manual Fund Assignment** page. The funds that are pulled out of the record are displayed on this page. The unassigned fund amount and all funds balances that have been assigned are also displayed on top of the page, in tiles, under the page title. For example, Fund 3 is the fund code and the fund balance is displayed.

When there is any funding available for a fund, the fund will have an information icon (exclamation mark ! symbol) next to it. For any fund that does not have any funding, the information icon (exclamation mark ! symbol) does not appear. Hover over the information icon (exclamation mark ! symbol) to see more details about each fund (such as **Total**, **Assigned Amount** (at fund sheet level or commitment funding level), and **Remaining Amount**)

On the toolbar, by using the expand or collapse option, you can activate or deactivate the display of both **Amount** and **Percentage** for the funds. You can enter either the **Amount** or the **Percentage** values. For example, you can select a record with remaining value that has been unassigned (**Remaining Unassigned**) and then select the cell under the corresponding **Percentage** column and enter the desired percentage value, or do the same for the **Amount**, for a particular fund. Depending on the value that you enter, the system recalculates the **Remaining Unassigned** value.

Records with partial assignments will have an icon displayed under the **Split** column.

- If a record is modified, the information icon (exclamation mark ! symbol), under the **Split** column, turns blue. When you hover over the icon, the title of the report, total, assigned amount, and remaining amount will display.
 - If you assign one hundred percent for fund value (consumption), the information icon (exclamation mark ! symbol), under the **Split** column, turns green.
 - If there is negative amount unassigned, the information icon (exclamation mark ! symbol), under the **Split** column, turns red.
 - If a record does not have any assignments, there will be no icons under the **Split** column.
 - If you do not see an icon displayed under the **Split** column, the **Remaining Unassigned** value will be the total and the assigned amount will be zero.
6. Select **Save** to save your changes. You can select **Cancel** to discard your changes and return back to the previous screen.

If you enter values greater than one hundred percent, the cell will display a red triangle (cell level error icon) and when you hover over, a tooltip message explains the error.

A funding sheet-level error message will be displayed to inform you that you cannot assign more than total fund amount to a fund.

Automatic Fund Assignment

For automatic assignments, the following generally occurs:

- Automatic funding occurs when the record reaches the **End** step in the workflow business process, or when **Finish Editing** is selected in the non-workflow business process.
- The funds are assigned based either on the fund assignment order, or by the ratio of the amounts of each fund, as determined in the assignment options in the Properties.

It is possible to adjust funding after automatic fund assignments.

About Crediting Funds

Sometimes it is necessary to credit back funds that have already been assigned. The same general procedures for assigning funds can be used for crediting funds as well. You may need to credit funds back to the credit source if:

- You receive an invoice credit from a vendor, and funds have already been assigned to the original invoice amount.
- A mistake was made in the original fund assignment, either by assigning too high a value, or assigning funds from the wrong fund.

You cannot credit more of a fund than has been consumed.

You can also credit previously assigned funds back to the fund source, either due to receiving a credit invoice or line item (for example, a vendor credit), or to correct a previous assignment error.

About business processes enabled for funding

Business process behavior is dependent on the how the business process was designed and the assignment options chosen in the project/shell funding sheet. In general, the design

determines when funding assignments can be viewed or performed, and the assignment options determine whether the assignment is done manually or automatically, and at what levels.

Spends type business processes (for example, invoices or payment applications) can be designed to consume funds. Following is a summary of the business process types and design options that can be used:

Project level:

- Cost type, subtype line items with fund code, classification generic, general spends or payment application.
- Workflow or non-workflow.
- Each action form can be enabled with the following options: "View fund assignment" and "Allow fund assignment." This option allows funding assignments to be viewed or performed at any step in the workflow (or any status if non-workflow). The "Allow fund assignment" option is applicable when the business process is set up for manual assignment in the funding assignment levels in the funding sheet properties.
- An option can be set for the business process that disallows manual fund assignment after the record reaches the end step (or terminal status for non-workflow). When this option is chosen, it takes precedence over the "Allow fund assignment" setting, even if an action form is used on the end step. This option does not affect automatic fund assignments. This option is found on the Edit Studio window, **Options** tab.

CBS level:

- Cost type, subtype line items with CBS and fund code, classification generic, general spends or payment application.
- Other options are the same as for project level.

Manually assign or credit funds (unassigned funds)

Normally, if a spends business process record has not been set up to automatically assign funds upon reaching a certain status, that record total will show as Unassigned Funds in the project/shell funding sheet.

When the funding business process reaches a specified workflow step or status, a **Funding** button appears on the business process form. Selecting the Funding button opens the Funding window, allowing manual fund assignment.

Funds can be manually assigned at the project/shell level (project/shell funding sheet), CBS level (project/shell cost sheet), or business process level (spends business process record designed to consume funds).

If a credit invoice (negative line item or invoice amount) has been submitted, this can be used to credit previously consumed funds back to the source, or can be used to credit another fund. You cannot credit an amount that is more than has been consumed.

Note

This section discusses assigning and crediting funds on the project/shell funding sheet. See also [Assigning and Crediting Commitment Level Funds](#).

To manually assign funds at the project/shell level from the funding sheet:

1. Open the project/shell funding sheet.
2. In the upper portion of the window, select the link next to **Unassigned (Project Level)**. This link displays the amount of funds that are not currently assigned to a particular fund. The Manual Fund Assignment window opens. This window displays the list of spends business process records that have not yet been fully funded. A record can appear on this list if you do not have enough funds available during an auto-assignment process, or if you set Manual as the assignment rule for the business process under the funding sheet Assignment tab.
3. Select one or more records from the list.
4. From the toolbar, select **Assign to Funds**. The Manual Fund Assignment window opens.
5. Enter a percent (%) amount for each record against a funding source.
6. Select **OK**.

To manually assign funds at the CBS level from the cost sheet:

1. Open the project/shell cost sheet.
2. In the upper portion of the window, note the amount shown in the **Unassigned at CBS Level** field. This is an amount that gets rolled up from the unfunded record data source in the project/shell cost sheet.
3. Select a cell under the Unfunded Records column for a CBS code. The Cell Detail window opens. This window displays the list of records that are not funded.
4. Select one or more records from the list, and select **Assign to Funds** on the toolbar.
5. Enter a percent (%) amount for each record against a funding source.
6. Select **OK** to close the form.

 Note

Funds can be automatically consumed at the CBS level by defining the fund order for each CBS Code from the Fund Assignment Order window on the Project/Shell cost sheet and setting the assignment level to CBS Auto Order.

To manually assign or credit funds from a business process record:

1. Open the business process record that needs to be funded. If the record is at a specified workflow step and status that allows funding, a Funding button is available.
2. From the toolbar, select **Funding**. The Funding window opens.
3. Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.
4. Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.
5. Select **OK**.
If the business process is configured to use individual commit line items as SOV line items, the upper pane will not show a list of line items. You will see a total amount under the Unassigned Amount field.

Reassign project/shell funds from a business process record

In addition to assigning or crediting funds from the funding sheet, you can also adjust the funding allocations that were rolled up to the funding sheet directly from the business process record in which the transaction took place.

To reassign project/shell funds:

1. Open the business process record in which you want to reassign funds.
2. Select **Funding**. The Cell Detail window opens.
3. Click **Select**. The fund picker opens.
4. Select the funding source from which to assign funds.
Depending on the design of the BP, the Fund picker may display all funds being used by the company or only those funds currently allocated to the project/shell.
5. Select **OK**. The Assign to Fund window opens.
6. Enter the percentage of the transaction amount to assign to the new fund, and select **OK**.

Searching for Fund Codes

If you are working with many funds, there are ways to help you find the fund or funds that you are looking for. You can search for individual fund codes using the Find feature. You can also create and apply filters, which can be used to temporarily limit the number of funds displayed on the sheet.

You can use the Find button to help you find a particular fund on company, project/shell funding sheet, or a funding template. You can search by any column on the funding sheet. This option is available if the display mode is Flat or Tree. Find is available on company and project/shell funding sheets and templates.

In addition, you can search for funds in a fund picker. The fund picker displays when you are adding funds to a project/shell funding sheet, or funds when adding line items to a business process record used for funding.

To search for a fund on a funding sheet:

1. Open the project/shell funding sheet.
2. From the toolbar, select **Find**. The Find window opens.
3. Complete the Find window:
 - **Column:** Choose a column name. This drop-down contains the names of all columns that are displayed on the funding sheet, including Fund Code and Fund Name.
 - **Value:** Enter a value for which to search. You can enter a full or partial word, number, or other value. (Do not enter a wildcard character for partial entries.) The format of your entry will depend on the type of value you are searching for. If you are searching for a fund code, you can include the code separator if one is used (for example, a dash).
 - **Search:** Choose **Up** or **Down**. For new searches, use Down. If a value is found, it will be selected on the sheet. If you want to continue to search, you can choose to search up or down from the current selection.
4. Select **Cancel** to close the Find window.

To search for a fund in a fund picker:

1. Open the funding sheet or business process record.
2. Open the fund picker by doing one of the following:

- On a project/shell funding sheet or template, add a row to the sheet by selecting **Rows**, and then selecting **Add Row**. In the Fund Details window, click **Select** next to the field for choosing a fund (for example, Fund Code).
- In the business process record, click **Select** next to the field for choosing a fund (for example, Fund Code).

The Fund Picker opens.

3. You can search for a specific fund in the fund picker:
 - a. Select **Find**. The Find window opens. The window that opens will depend on the design.
 - If an attribute form is not defined, the default Find window will let you search by Fund Code or Fund Name.
 - If an attribute form is defined, the Find window can also be designed, and you may have additional fields to search by.
 - b. Enter search criteria, and select **Search**. This limits the number of funds that are displayed to those that match the search criteria.
4. Select **OK**. The fund appears as a row on the Funding Sheet. Funds are displayed in alphabetical order on funding sheet.

Viewing a Funding Sheet

You can use the **View** option to access created views, create views, or update existing views. The views that have been created, including Default, are listed in the upper segment of the drop-down list. The lower segment of the list includes the Create New View and Manage Views options.

To create a view:

1. Select **Create New View**.
2. Use the **Save View As** field to name your new view.
3. Use the following tabs for adding columns and filtering, grouping, and sorting information:
 - **Columns** tab
 - **Filters** tab
 - **Group By** tab
 - **Sort By** tab

The **Available Columns** box displays all the columns that you might want to include. The **Selected Columns** box displays all the columns that you select. You can move columns in and out of the **Selected Columns** box.

Use the following fields to set the position of the new view:

- **Left Lock after Column:** Displays a list of all columns, except the last column from the selected columns list. By default, **None** is selected, which means that you have chosen no column to be locked, from the left side of the sheet.
- **Right Lock after Column:** The default value is **None**, which means that you can select not to right-lock the column in the view. Other values in this field are based on the value that you have selected in the **Left Lock after Column**.

The **Filters** tab lets you further control what information is displayed in the selected view. See [Creating and Applying Filters](#).

The **Group By** and **Sort By** tabs let you identify which columns should be used for group and sorting and in what order.

4. When you are done, select **Save**.

To manage a view:

To update a view, select the applicable view from the **View** list, select **Edit View** , and then make and save the applicable changes.

Creating and Applying Filters

If you are working with many funds, it may be useful to display a subset of the total number of funds when working with the Funding Sheet. For example, you may want to view only new funds for the current year.

You can temporarily limit the number of funds displayed on the sheet by applying a filter. This feature is available on Company Funding Sheets, Project/Shell Funding Sheets, and funding sheet templates.

Note

Filters that you set up in the shell template for a Funding Sheet are not currently included in the Project/Shell Funding Sheet. To use filters, you must set them up in the Project/Shell Funding Sheet.

Creating and Managing Filters on a Project/Shell Funding Sheet

If you have Create or Modify permissions, you can create and save any number of filters. Anyone with permission to view the Funding Sheet can view and apply saved filters. You can add multiple filters to a view, and you can use the same data element multiple times. When adding multiple filters, you can use operators to specify that the view must match all listed filters or that it can match one or more of the listed filters.

These procedures are applicable to Company Funding Sheets, Project/Shell Funding Sheets, and funding sheet templates.

Note

Filters that you set up in the shell template for a Funding Sheet are not currently included in the Project/Shell Funding Sheet. To use filters, you must set them up in the Project/Shell Funding Sheet.

To create a filter:

1. From within the applicable view for the Funding Sheet, while you are in the **New View** or **Edit View** window, select the **Filters** tab.
2. Select **Add Filter**.
3. Do the following:
 - a. Choose a **Data Element**: This drop-down list displays all data elements that are on the Fund Attribute Form. Any data elements in a hidden block are not available.

- b. Choose a **Condition**: This drop-down displays a list of conditions. This list is based on the type of data element selected.
- c. Choose a **Value**: Depending on the type of data element, choose a value that the query condition must meet.
 - **Data Element**: Lists the data elements on the Fund Attribute Form.
 - **Constant Value**: You can enter a full or partial entry of the value to filter by. This is similar to entering search criteria. For example, if you want to display only funds with "2010" in the fund code, choose the data element Fund Code, condition of equals, and 2010 as a constant value. For pulldown or other multiple-entry fields, a Select button appears, allowing you to select a value.
4. To add additional filters, select **Add Filter** again, and repeat the preceding steps. You can use the same data element multiple times.
5. If you are using multiple filters, select the applicable operator that should apply to the set:
 - **And**: To specify that the view must match all listed filters, select **And**.
 - **Or**: To specify that the view should match any of the listed filters, select **Or**.
6. When you are done, select **Save** or **Save As**, as applicable.

To modify or remove a filter:

1. From within the applicable view for the Funding Sheet, select **Edit View** , and select the **Filters** tab.
2. Make the applicable changes, such as changing the selected Data Element or Condition, updating the Value, or removing one or more of the filters from a set.
3. To save your changes, select **Save** or **Save As**.

Applying a Filter to Limit the Fund Code Display

By using the **Default** view and applying a filter to the funding sheet, you can temporarily reduce the number of fund codes that are displayed on the sheet.

To apply a filter:

1. From within the **Default** view for the funding sheet, select **Edit View** , and select the **Filters** tab.
2. Select **Add Filter**.
The **Data Elements** list selects **Fund Code** by default.
3. Select the applicable **Condition**, such as **equals**.
4. In the **Value**, enter the first fund code that you want to include in the view.
5. If you want to include multiple fund codes, select **Add Filter** again, repeat the preceding steps for each fund code that you want to include, and select the **Or** operator.
6. Select **Save As**, enter a name for the view, and select **Save**.

The funding sheet will display only those funds meeting the conditions of the filter selected. The top of the sheet will display the name of the view.

To display all funds, select **Default** from the **View** menu.

Importing and Exporting Project/Shell Funding Sheet Information

You can export a summary of a funding sheet, which creates a CSV file that contains the rows, columns, and data on the funding sheet. You can also export a CSV file containing fund details, which includes all fund codes on the sheet and the data captured for them from the Fund Details window.

You can also import fund details to a company funding sheet. This lets you add fund codes to a funding sheet directly from a CSV file, rather than add them manually.

These procedures are applicable to company, project, and shell funding sheets.

Export funding sheet information

You can export a summary funding sheet, which is a CSV file containing the rows (funds), columns, and data on the funding sheet. You can do this in a company, project, or shell funding sheet. Summary funding sheet information cannot be re-imported.

To export a funding sheet summary:

1. Open the company, project, or shell funding sheet.
2. Select **Export**, and then choose **Summary Fund Sheet**.
3. Read the confirmation message, and then select **Yes** to continue.
You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.
4. Select **Save**, and specify the location in which to save the CSV file.

Import and export fund details

You can export fund detail information from a company, project, or shell funding sheet to a CSV file. This contains all the information captured in the Fund Details form when the funds were added to the company funding sheet. When you export the fund details from the company funding sheet, the details of all funds are exported; exporting from a project/shell funding sheet gives the details of those funds added to that sheet.

When adding funds to a company funding sheet, you can use the export file as a template, add fund details to the CSV file, and then re-import the file to add funds to the company funding sheet. You cannot use import to add funds to a project/shell funding sheet.

To export fund details from a funding sheet:

1. Open the company, project, or shell funding sheet.
2. Select **Export**, and then choose **Fund Details**.
3. Read the confirmation message and then select **Yes** to continue.
You may choose to open the file in a compatible program such as Microsoft Excel to review it before saving.
4. Select **Save**, and specify the location in which to save the CSV file.

To import fund details into a company funding sheet:

1. Open the company funding sheet.
2. Be sure you first export the fund details and save the CSV file.
Note the instructions at the top of the file. Remove any existing funds that may be listed in the export file, so that only the column headings remain. The instructions at the top of the file can remain. Save the file.

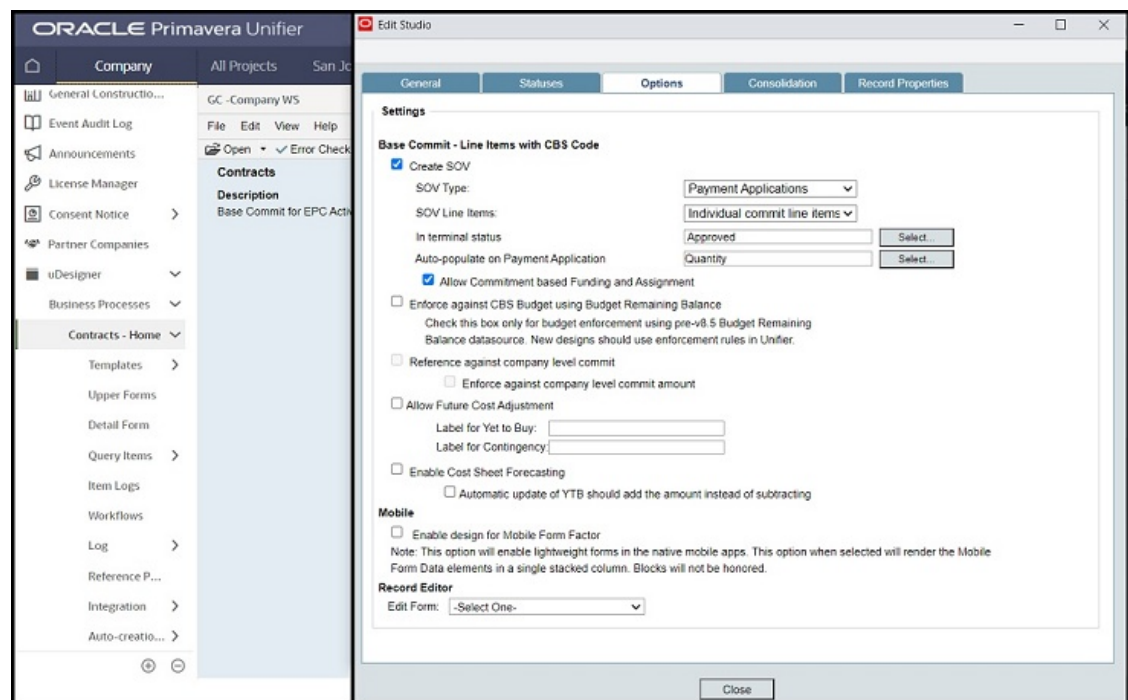
3. Add the fund details for the funds that you want to import. Be sure to complete all required fields. Do not add fund codes that already exist on the funding sheet.
4. Select **Import Fund Details**.
5. Browse to the CSV file, and select **Ok**. The funds you added to the import file will be added to the company funding sheet.

Note

If any errors occur, download and open the error file, and correct the CSV file before reimporting. Common errors include trying to import fund codes that exist on the sheet, or not completing required fields.

Commitment Funding Sheet

Commitment Funding can be enabled for Base Commit and Change Commit, in uDesigner (selecting the **Allow Commitment based Funding and Assignment** option):



The Commitment Funding sheet enables you to allocate specific project/shell funds to individual Base Commit records (for example, Purchase Orders) and Change Commit records (for example, Change Orders). This works in conjunction with the Schedule of Values SOV sheet to track the Base Commit and the Change Commit line items and balances.

The following topics explain the details of the **Commitment Funding Sheet** sub-module or sub-node.

For information about language (internationalization) and CSV files, see Internationalization and CSV Files.

Working with Commitment Funding Sheets

When using project/shell level Funding (described in the previous sections), the Fund Assignment procedure does not distinguish which Funds is consumes for invoices or payment applications that come in for different Base Commit BP records (that is, Contracts or Purchase Orders business processes). There may be times when a Base Commit needs to be funded by a specific fund or funds. If you want to allocate and assign specific funds for each Contract, you can use Commitment Funding.

Commitment Funding works in conjunction with project/shell level Funding (the Funds allocated to a Commit must first be present in the project/shell Funding Sheet) and with the Schedule of Values (SOV) sheet that is created for the Base Commits (as the SOV keeps track of the line items and the amounts of the Base Commits and any Change Commits).

The terms "Base Commit" and "Contract" may be interchanged in the descriptions, but both refer to cost-type business processes of sub-type "Line items with CBS Code" and classification "base commit." Common examples are Contracts and Purchase Orders.

If you are enabling a Base Commit for Commitment Funding, its linked Actual (Spends) business process (General Spends invoice or Payment Application) will then consume Funds at the Commitment level, not the project level. If you want to do Commitment Funding with some Contracts and project level Funding with other Contracts, you should use a different "set" of Base Commit, Change Commit and Actual (Spends) business processes (to use for each type of Funding that you want to do).

If you will be using Commitment level Funding, a sheet structure must be created for the project/shell which consists of columns and assignment rules (in the Properties). The Commitment Funding sheets are created for each Base Commit record, using this default structure. The Funds (rows) are added to the Commitment Funding sheets, and the Fund amounts are allocated from available project/shell Funds to each sheet.

Note

Although Commitment Funding sheets are based on the structure, you can still modify the columns and properties of individual sheets. You can also modify the Commitment Funding structure after the sheets have been created. Modifications to the structure will be reflected on the new sheets, but the modifications will not affect the existing sheets.

Commitment Funding Sheets (Source, Structure, Permission)

The Commitment Funding sheet is based on the individual Base Commit BP records (for example, Purchase Orders) and Change Commit records (for example, Change Orders).

The structure (rows and columns) of a Commitment Funding sheet is based on the structure (rows and columns) of the Commitment Funding sheet template.

The Commitment Funding sheets can be accessed from the **Commitment Funding Sheet** log, or from the Base Commit BP record with which the Commitment Funding sheet is associated.

Accessing the sheet from the Base Commit BP record depends on the business process design:

- For workflow business processes, the Funding is enabled per step.
- For non-workflow business processes, the Funding will be enabled when the business process form is editable.

The Funding sheet may also be available for viewing on View Forms, depending on the design.

The Funding sheet is available if a **Funding** option is present on the Base Commit record toolbar.

Note

The Commitment Funding sheets have record-level permission. The creator of the Base Commit BP becomes the creator of the Commitment Funding sheet that was created from that Base Commit BP and must grant View or Edit permission to other users that may need to access it.

Commitment Funding Sheet Log

To access the **Commitment Funding Sheet** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.

The **Commitment Funding Sheet** log lists the Base Commit BP records (for example, Contracts or Purchase orders business processes) and has the following toolbar options:

Option	Description
Update Structure	 Note If your Commitment Funding Sheet log has no structure, this option will change to Create Structure. This toolbar option opens the Commitment Funding Structure window. The Commitment Funding Structure log columns provides details about the commitment funding columns by listing their names, data sources, and data formats. Use the toolbar options to: • Add a column to the Commitment Funding Structure log columns (Add Column ) • Open the Commitment Funding Structure properties (CFS Structure Properties ) This option opens the Properties window which has the General tab and Assignment tab. In the General tab, you can enter the title, and in the Assignment tab you can set the assignment rules (Commitment Level-Manual or Commitment Level-Auto Ratio). The properties of a commitment funding sheet are copied from the structure it was created from (which in turn was copied from a template). You can use these properties or modify them as necessary. • Find an item on the log (Find on Page ) Right-click a row to insert, make a column visible or invisible (Visible checkbox), delete, or reorder the rows and ultimately the columns. You can double-click a row to open the Column Properties window and see the details or properties of that column. Alternatively, you can use the <i>gear menu</i> () options to do the same. The <i>gear menu</i> appears next to each row when you hover over that row. Similar to the Project Funding Sheet, new columns are created by filling the column properties fields. The Type has three options: Direct Entry, Line Item Content, and Formula. Columns such as Funding by Discrete Funds, Rows Funded by Discrete Funds, and so on are part of the Type: Line Item Content. The same Properties window is used for viewing the column properties, which can be opened by selecting Properties by right-clicking a column heading. To close the Commitment Funding Structure window, select X in the upper-right corner.

Option	Description
Actions	To set permissions for the commitment funding sheet. Select Permissions to open the Permissions window to add, remove, or find users or groups, and to modify or set permissions. • Modify Permission: This will allow user to modify record level permissions. • Edit: This will allow user to modify data on the sheet. • View: This will allow user to view the sheet.  Note When you change settings in the Permissions window, the Save button is enabled. After you select Save, a spinning wheel appears while your changes are saved and then the Save button is dimmed.
Refresh	To update the information displayed on the screen.

Option	Description
Print	This option enables you to print the information displayed on the screen (Print), export the list displayed to an external file (Export to CSV or Export to Excel). Note - For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. - If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
Search	To open the search pane and use the following filters or fields to search for a particular record: Base Record Description Date Created Creator
Find on Page	This option enables you to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

When you select a row (base record), or a fund attribute, the screen splits and the right pane displays the properties or fund attributes details of the record within the following tabs:

- Properties** tab: Shows the record name and description.
- Assignment** tab: Shows the **Spends Process** and allows you to select the **Assignment Rules** (**Commitment Level-Manual** or **Commitment Level-Auto Ratio**).
- Permissions** tab: Shows the users or groups and their permissions details.

- **Audit Log** tab: Shows a list of the actions that have been taken on a record. The following are captured in the Audit Log:
Date, Event, Action, Field, Old Value, New Value, User Name, Proxy User, and Attachment. You can print the list in the **Audit Log** tab.

In the **Commitment Funding Sheet** log, each row (base record) has a *gear menu* () option that enables you to:

- **Open:** To open the commitment funding sheet window, for the base record BP (**Commitment Funding Sheet <BP Base Record Name>** window). See [Opening Commitment Funding Sheet for a Base Record BP](#).
- **Permissions:** To open the **Permissions** window and to add or remove users or groups and to add, modify, or change permissions.
- **Open Base Record:** To open the BP base record window (**<Base Record Name BP>** window). See [Opening a Base Record from the Commitment Funding Sheet Log](#).

Except for manual entry columns, all the values are editable in the commitment funding sheet.

Opening Commitment Funding Sheet for a Base Record BP

In the **Commitment Funding Sheet** log, double-click a row (base record) to open the commitment funding sheet for that base record BP (**Commitment Funding Sheet (<Base Record Name BP>)** window). Alternatively, you can select, or hover over, a record to activate the *gear menu* () , and select **Open** to open the **Commitment Funding Sheet (<Base Record Name BP>)** window.

The **Commitment Funding Sheet (<Base Record Name BP>)** window shows the commitment funding sheet for the base record BP that you have selected to open. The window shows the currency information and the Unassigned (Commitment Level). If you select the amount link, on top, the **Manual Fund Assignment** window opens which displays the details of the fund assignment such as the unassigned amount and name, title, the assigned amount, remaining unassigned, description, and totals.

The **Commitment Funding Sheet (<Base Record Name BP>)** window has the following columns:

- **Fund Code**
- **Fund Name**

Depending on your setup, the sheet columns will also include other funds. For example:

- **Funding By Discrete Fund**
- **Records Funded By Discrete Fund**
- **Fund Balance By Discrete Fund**

Except for the first two columns, you can right-click the column heading of any other columns and hide, delete, lock, insert column, or open the properties of that column.

Use the **Commitment Funding Sheet (<Base Record Name BP>)** window toolbar options to:

- Manage rows
- Add columns
- Change the sheet view
- Create a new view for the sheet

- Manage the existing sheet views
- Edit the views
- Open the **Fund Assignment** window that lists all the CBS codes for the base record (you can search for CBS codes or Cost codes or change assignments for a fund code). You can update the fund assignment for any of the CBS codes. By default, the **All Funds** option is selected for all the CBS codes. You can select more than one CBS code and select a fund from the **Bulk Assign** drop-down field. You must select at least one line to access the contents of the drop-down field. After the fund is selected, all the records will reflect the selected fund in their **Assignment** column.
- The **Fund Assignment** window can be accessed from the SOV sheet (to access it: in the left Navigator, select Cost Manager, select SOV, select General Spends or Payment Applications, and then open an SOV-based record).
- Refresh the items on the sheet to get the most up-to-date values.
- Print the items on the sheet.
- Find an item on the sheet.
- Use the **Menu Options** and set columns, export **CFS Sheet Summary** or **Fund Details**, color rows, open column properties, and open the **Audit Log**.

The lower part of the sheet, depending on the **Fund Code** that you have selected, will show the **Fund Attributes** which shows a read-only display of:

- **Fund Code**
- **Fund Description**
- **Fund Category**
- **Fund Name**
- **Fund Long Description**

If you select a cell, or value, under a data source (a column other than the first two columns), the lower part of the sheet displays the following tabs:

- **Transactions** tab
- **Cell Details** tab
- **Audit Log** tab

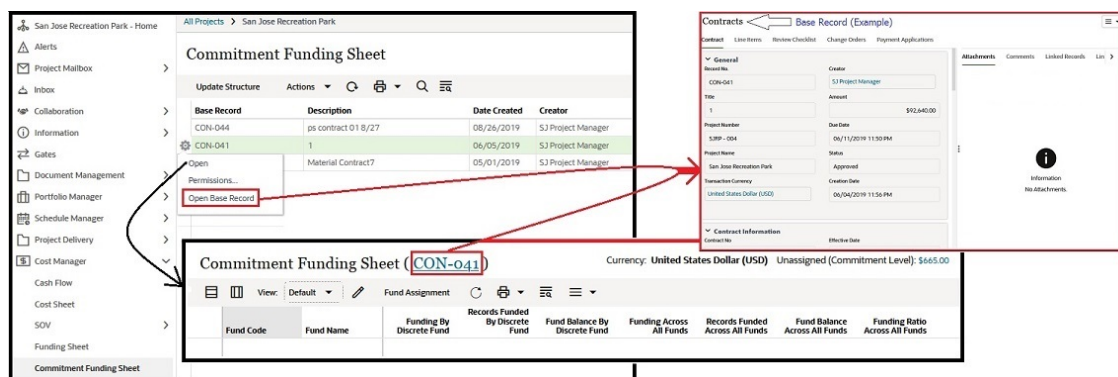
The commitment funding sheet displays an error icon in case of errors. You can select the error icon to open the list of errors.

The following explains how to open a base record BP.

Opening a Base Record Business Process from Commitment Funding Sheet Log

You can open a base record BP by one of the following methods:

- Opening the commitment funding sheet, and then selecting the BP link (**<Base Record Name BP>**) in title.
- Selecting, or hovering over, a row (base record) to activate the *gear menu* () , and selecting **Open Base Record**.



The following explains the elements of a base record BP.

Title and Menu Options

The top area displays the name of the base record BP (title), and on the right corner, it has a **More Actions** menu that enables you to access or conduct the following:

- **Funding**
Opens the **Commitment Funding Sheet (<Base Record Name BP>)** window.
- **Email as Attachment**
Opens an email message window that has a PDF version of the Base Record attached, and the From and Subject fields auto-populated.
- **Print**
Enables you to print the Base Record using one of the following formats: **HTML**, **PDF**, or **Custom** (using a Custom Print Template).
- **Review**
Enables you to review the Base Record by way of a file viewer or AutoVue.
- **Help**
Enables you to access the Base Record help (PDF version) or the **User Productivity Kit**.
- **Close**
To close the Base Record window and go back to the **Commitment Funding Sheet (<Base Record Name BP>)** window.

Tabs and Properties Tabs

The body of the window is divided into two panes, the left and the right. The left pane has the following tabs and each pane corresponds to a tab on the right pane, as explained in the following table:

Left pane	Right pane
<Base Commit Record Name BP> tab Information about the Base Record. For example, if the Base Record is Contracts, the Contracts tab will have the following blocks providing details: • General • Contract Information • Contract Summary • Change Orders • Vendor Information	Attachments tab Lists any files that are attached to this Base Record. Comments tab To post or read existing comments, in text format. It also enables you to upload files by accessing either a location on your computer (Browse), or by accessing the Document Manager and selecting a file from the Project Documents. If you select the Browse option, you have the option to Revise automatically if file with same name exists. Linked Records tab To access any records that are linked to this Base Record. Linked Mail tab To access any emails that are linked to this Base Record. Workflow Progress tab This tab enables you to: • See the Base Record Title, Record Number, Current Step, and BP Setup Used. • See or print the Workflow Progress - Graphic. • Filter by Visited Steps or All Steps. • Review details for all the steps taken such as the Assignee and Status. Audit Log tab To see a record of all the actions that have been taken on the Base Record. The log includes information such as the Date, Action, and User Name. Reference Records tab Lists all the records that have been referenced in this Base Record. You can select the records listed to see the details. In the upper-right corner, select View Graphic to open and see the Reference Records - Graphic which shows the relation between the record and its references.

Left pane	Right pane
Line Items tab • Form View (Default view and read-only. See the image below for example.) • Grid View (See the image below for example. You can select a WBS Code cell which has the code as a link and open the WBS Code window.) • View Currency drop-down list (Your options are: Transaction Currency, Project Currency, or <currency>) • Refresh • Print • Search • Find on Page	Line Item Details tab • Attachments tab • Linked Records

Contracts Base Record Example

Contract Line Items Review Checklist Change Orders Payment Applications

Actions View Currency Transaction Currency

No.	Code	Code Name	Item Unit Cost	Item Quantity	Amount
004	00800	Supplementary Cond...	\$670.00	90	\$60,300.00
003	00700	General Conditions	\$210.00	44	\$9,240.00
002	00600	Bonds & Certificates	\$30.00	550	\$16,500.00
001	00500	Agreement	\$22.00	300	\$6,600.00

Form View

Form View icon

Contracts Base Record Example

Contract Line Items Review Checklist Change Orders Payment Applications

Actions View Currency Transaction Currency

No.	Short Description	WBS Code	Code Name	Description	Effective Date	Spend Category	Work Package	Quantity	Unit of Measure	Unit Price	Amount	Issuer's Website/URL
004	contract line 4	00800	Supplementary C...	contract line 4				90	cu ft	\$670.00	\$60,300.00	
003	contract line 3	00700	General Conditions	contract line 3				44		\$210.00	\$9,240.00	
002	contract line 2	00600	Bonds & Certifica...	contract line 2				550		\$30.00	\$16,500.00	
001	contract line 1	00500	Agreement	contract line 1				300	day	\$22.00	\$6,600.00	
TOTAL								984		\$952.00	\$92,640.00	
Total: 4												

Grid View

Grid View icon

Left pane

Review Checklist tab

- Form View (Default view and read-only.)
- Grid View
- Refresh
- Print
- Search
- Find on Page

Right pane

None

Left pane	Right pane
<Change Commit Record Name BP> tab Create To open the Create New <Change Commit record name> (for example, Change Orders) window and add: • The title of the new <Change Commit record name>. • Information for the <Change Commit record name> such as Contract Picker, Spec Section, Current Contract Completion Date, and so forth. • Scope • Cost Center • Acquisition Year • Attachments • Comments • Link to other records • Link to emails And from the More Actions menu: • Select SOV to open the Schedule of Values window of the Base record to access the Cost Codes general information, breakdown, attachments, and notes, or to access a Scheduled Value amount to see the CBS Line items, details, attachments, and notes. • Select Export Line Item Template to export it through a CSV or Microsoft Excel file. • Select Print to the contents of the window in HTML, PDF, or a Custom format. • Select Reload to receive updated information about the Change Commit record Contract Summary. • Select Review to access any documents that are available for review. • Select Help to access the Change Commit record help PDF or the User Productivity Kit. • Select Close to close the <Change Commit record name> window. Next to More Actions, you can select Save Draft to revisit your work later, or you can Send your changes to the next step if your changes are completed. Refresh Print Search Find on Page	None

Left pane	Right pane
Payment Applications tab Create To open the Create New Payment Applications window and: In the Payment Applications tab add: • The title of the new Payment Applications. • Contract information • Payment Application information • Attachments • Comments • Link to other records • Link to emails In the Line Items tab, for each WBS Code and in case the information is missing, you can enter values in the Short Description, Description, Work Package, Material Price, and other cells that are not grayed. You can right-click any column heading and sort the cells, remove columns, or add columns. In the upper-right corner, select Save to save your changes, or select Error Check to see which required cells you have missed to enter a value in, or select Cancel to discard your changes. And from the More Actions menu: • Select SOV to open the Schedule of Values window of the Base record to access the Cost Codes general information, breakdown, attachments, and notes, or to access a Scheduled Value amount to see the CBS Line items, details, attachments, and notes. • Select Export Line Item Template to export it through a CSV or Microsoft Excel file. • Select Print to the contents of the window in HTML, PDF, or a Custom format. • Select Reload to receive updated information about the Payment Applications information such as Original Contract Amount, Net Changes by Change Orders, and so forth. • Select Review to access any documents that are available for review. • Select Help to access the Payment Applications help PDF or the User Productivity Kit. • Select Close to close the window. Next to More Actions, you can select Save Draft to revisit your work later, or you can Send your changes to the next step if your changes are completed. Refresh Print Search Find on Page	None

Creating, Viewing, and Editing a Commitment Funding Sheet Structure

Structures are created by copying a commitment funding template. The commitment funding structure defines:

- The column structure that will be used for the individual commitment funding sheets that are created from the base commit BP records.
- The assignment levels and rules to use for each sheet (in the **Properties** window).

 Note

The following procedures assume a commitment funding template has been created and available.

Structures can also be created in a project/shell template and then copied to projects/shells created from that template. Structures created in a project/shell template can also be "pushed" to an existing project/shell, using the Update Projects or Update Shells options.

If you modify the columns or properties of the commitment funding sheet structure, the existing sheets will not be affected, and only the new commitment funding sheets (created from the edited structure) will reflect your modifications. You can modify the columns and properties of individual commitment funding sheets without affecting the default structure.

To create a commitment funding sheet structure:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. From the toolbar menu options, select **Create Structure** to open the window.

 Note

When a structure is created, the **Create Structure** option changes to **Update Structure** option.

4. Proceed to select and open a commitment funding template from the list.
5. Follow the prompts to either use the commitment funding template structure as is or make modifications as necessary and use the end result for the commitment funding sheet structure.

To view or edit a commitment funding sheet structure:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. From the toolbar menu options, select **Update Structure** to open the **Commitment Funding Structure** window.
4. Read the following information to view or edit the commitment funding sheet structure: The **Commitment Funding Structure** log columns provides details about the commitment funding columns by listing their names, data sources, and data formats.

Use the toolbar options to:

- Add a column to the **Commitment Funding Structure** log columns (**Add Column** )

- Open the **Commitment Funding Structure** properties (**CFS Structure Properties**



This option opens the **Properties** window which has the **General** tab and **Assignment** tab. In the **General** tab, you can enter the title, and in the **Assignment** tab you can set the assignment rules (**Commitment Level-Manual** or **Commitment Level-Auto Ratio**). The properties of a commitment funding sheet are copied from the structure it was created from (which in turn was copied from a template). You can use these properties or modify them as necessary.

- Find an item on the log (**Find on Page** )

Right-click a row to insert, make a column visible or invisible (**Visible** checkbox), delete, or reorder the rows and ultimately the columns.

You can double-click a row to open the **Column Properties** window and see the details or properties of that column. Alternatively, you can use the *gear menu* () options to do the same. The *gear menu* appears next to each row, when you hover over that row. Similar to the Project Funding Sheet, new columns are created by filling the column properties fields. The Type has three options: Direct Entry, Line Item Content, and Formula. Columns such as Funding by Discrete Funds, Rows Funded by Discrete Funds, and so on are part of Line Item Content Type. The same **Properties** window is used for viewing the column properties, which can be opened by selecting **Properties** by right-clicking a column heading.

To close the **Commitment Funding Structure** window, select **X** in the upper-right corner.

Creating a Commitment Funding Sheet

The Commitment Funding Sheet allows you to allocate project/shell funds to a specific "commitment" (base commit) business process record (for example, a contract or a purchase order). Changes to the original contract through the use of associated change commits will also be reflected on the funding sheet. The commitment funding sheet is also used to track the consumption of those funds as spends business processes (invoices or payment applications) are created.

There is one commitment funding sheet for each base commit business process record. You create the sheet directly from the base commit record after it reaches a step at which funding has been enabled. (For workflow BPs, funding can be enabled per step; for non-workflow BPs, funding will be enabled when the form is editable. The funding sheet may also be available for viewing on view forms, depending on the design. The funding sheet is available if a Funding button is present on the base or change commit record toolbar.)

Be sure the following is in place before creating the commitment funding sheet:

- A commitment funding structure has been created. The sheet will use this default structure. Columns can be modified, removed, or added to the sheet; this will not affect the default structure.
- The project/shell funding sheet has been created, and funds allocated to it from the company funding sheet.
- To use commitment level funding, a Schedule of Values (SOV) sheet must be created for the base commit. The commitment funding sheet uses the SOV to track base commit and change commit line items, amounts, and remaining balances. Be sure the SOV sheet has a column using the data source Scheduled Value, as this is used by the commitment funding sheet.

If the fund assignment levels and rules have been defined in the structure, these will be copied to the new sheet. These definitions can be added or edited in the sheet as needed.

The user who creates the sheet becomes the owner and automatically has full permissions to view and edit the sheet. If other users will need to view or edit the sheet, you will need to give them permission.

After the sheet is created, you then allocate funding for that record from the available project/shell funds. Fund allocation is done manually on the commitment funding sheet; allocation and consumption can be tracked on the project/shell funding sheet by adding the appropriate columns.

To create a commitment funding sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. Hover over the base commit business process record on which you want to perform commitment funding.
4. If commitment funding has been enabled on the base commit business process record, and the base commit business process record is in current step, then when you open the base commit business process record (*gear menu* , select **Open Base Record**), and select **Menu Options** (), the **Funding** option will be included in the list of options.

Note

If the **Funding** option is not available, contact your administrator to verify that commitment funding is available for the business process, that it is available on the current step, and that you have the proper permissions. In addition, it is possible that on some steps (and on **View Forms**), the Funding option will be present, but the option has been designed to open a view-only version of the sheet.

5. Select **Funding** to open the **Commitment Funding Sheet (<Base Record Name BP>)** window.
6. Select **Fund Assignment** to open the window and complete the commitment funding.

About Commitment Funding Columns

The columns on the commitment funding sheet are used to manage and track the funding allocation, assignment, and fund balances for the commit record.

Note

In these column definitions, the terms All Funds and Discrete Fund refer to the fund assignment options (from the Fund Assignment window, accessed from the SOV sheet or commitment funding sheet). These options determine how the SOV lines (and therefore, the commit lines) will be funded, either automatically or manually from the entire list of funds available to the commit, or by one specific fund.

The **Funding Across All Funds** column is used to enter (or calculate) the amount of each fund to allocate for this base commit record. The rows on the sheet are the funds that will be used to fund the commit. The value entered here will be the fund amount available for all

commit lines that have "All Funds" as assignment. This can be a manual entry column, or a formula that uses another manual entry column as the basis of the formula.

Additional columns commonly track fund assignments (consumption) made against each fund. These can be in the form of business process transactions or manual funding assignments. System provided data sources that can be used for columns include the following:

- **Funding By Discrete Fund:** This column displays the sum total of all the line items of base and change commits that are funded by a specific (or "discrete") fund. This value can be used to determine the fund balance during consumption.
- **Records Funded Across All Funds:** Reflects the total of funds consumed from records that are funded based on All Funds, whether funding is done manually or automatically.
- **Records Funded By Discrete Fund:** Displays the total of funds consumed from records that are funded based on a discrete fund, whether funding is done manually or automatically.
- **Fund Balance Across All Funds:** This column tracks the fund balance across all funds. The formula used is (Funding Across All Funds) - (Records Funded By All Funds).
- **Fund Balance By Discrete Fund:** This column tracks the fund balance by specific fund chosen in the Fund Assignment window. The formula used is (Funding By Discrete Fund) - (Records Funded By Discrete Fund).
- **Funding Ratio Across All Funds:** The value of this column is calculated automatically. It reflects the % ratio to use when performing fund assignment ratio during consumption. The formula is (Funding Across All Funds Per Fund) / Total of Fund Balance Across All Funds).

Assignment Levels and Rules

The assignment levels and rules are defined on the **Assignments** tab of the commitment funding sheet.

Note

This step is required to do commitment level funding.

The **Assignment** tab lists the spends business processes that are linked to base commits enabled for commitment level funding. For each listed business process, you define how fund assignment will be done when these spends records come in against the base commit:

- **Commitment Level - Manual:** Funds are manually assigned at runtime. As spends business processes are routed and reach specified status, the amounts to be funded are collected under the Unassigned total on the commitment funding sheet, similar to project/shell level manual funding. You can then select each line of the spends BP and assign funds at runtime. This can be done on transient records or in terminal status (depending on design). Consumed funds roll up to the commitment funding sheet and the project funding sheet.
- **Commitment Level - Auto Ratio:** Funds are assigned automatically when the spends business process reaches a specified status. Funds are assigned based on the fund ratio, which is calculated based on the current fund levels, and funds are managed and tracked on the commitment funding sheet. If all funds are consumed, any remaining spends amounts are collected under Unassigned.

You can define these assignment rules on the commitment funding template. When you create a commitment funding structure in a project/shell, these assignment rules will be copied to it,

and when you create sheets from the structure, they will be copied to the sheets. If you need to, you can modify these rules on individual structures and sheets.

Fund Assignment Details Per SOV Line Items

This is an optional step that allows you to provide details about fund assignment or consumption for each line on the Base Commit or any Change Commits. You access the **Fund Assignment** window by selecting **Fund Assignment** on the commitment funding sheet or the SOV sheet associated with the Base Commit.

- If you do not define any assignment options in this window, All Funds is the default selection. This means that all funds that have been allocated to the base commit on the commitment funding sheet will be available for funding each line of the spends business process created against it (either manually or by auto ratio, as defined by the assignment rules). When this is chosen, funding information is captured on the commitment funding sheet in columns using data sources referencing "across all funds."
- There may be times when you need to specify that a specific fund must be used to fund a specific CBS code on the base commit or a change commit. You can select a specific fund (or "discrete fund") to fund selected SOV lines. When this is chosen, funding information is captured on the commitment funding sheet in columns using data sources referencing "by discrete fund."

After the commitment funding sheet is created, you can add rows and allocate funds to it.

About Commitment Funding Sheet Rows

Each row in the commitment funding sheet corresponds to a fund that has been allocated for use on that commitment. Fund allocation can be done manually, by adding rows to the commitment funding sheet. The funds that are available for allocation are those on the project/shell funding sheet.

About Commitment Funding Assignment Options

Fund Assignment refers to how funds are to be consumed as spends type business processes (for example, invoices and payment applications) come in against the base commit that is being funded.

Initial assignment rules are defined in the **Assignment** tab. Additional details can be defined in the **Fund Assignment** window. To access the fund assignment window, select **Fund Assignment** on the commitment funding sheet or SOV sheet for the base commit. The **Fund Assignment** window is not accessible until the SOV sheet has been created.

Allocating Funds for Commitment Funding

Similar to project/shell funding sheets, the rows of a commitment funding sheet correspond to the funds that you want to use to fund the associated base commit (plus any linked change commits). The funds that are available to add as rows are those that have been added to the project/shell funding sheet.

After adding a row, you allocate how much of that fund you want to make available to the base commit directly on the sheet. That is, you must add a column to the commitment funding sheet using the data source **Funding Across All Rows**. This is the column to use for fund allocation.

This column can be manual entry or formula. If it is manual entry, you can enter the fund allocation amount directly to the cell. If you use a formula, you must also include another

manual entry column to use to enter an amount and include that in the formula. For example, you might want to use your own ratio of certain funds in the initial allocations. You can add a manual entry column, and then use the formula calculation for the **Funding Across All Rows** column.

Managing Commitment Funding Sheet Rows (Funds)

The rows that you add to a commitment funding sheet are the project/shell funds that you are allocating to the associated base commit and any change commits.

You add rows (funds) to the project/shell commitment funding sheet, but not the template or structure. You can delete a row if no assignments have been made against the fund.

Note

The **Add Rows** option is available only if all the available project funds have not been added to Base record BP commitment funding.

You cannot delete a row or base record BP, after a fund has been assigned to that row or base record BP.

After you save a commitment funding sheet, you cannot edit the assigned funds.

To assign a different fund to a row or base record BP, delete the row or base record BP, and then create a new row or base record BP and assign the fund.

To manage rows in the commitment funding sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. From the toolbar, select **Manage Rows** to open the **Manage Rows** window. The window is divided into two sections:

The left section which lists the "**Available Project Fund Codes**" sorted in columns by:

- Fund Code
- Fund Name
- Fund Description
- Fund Category

The right section which lists the "**Selected**" Fund Codes sorted according to the Available Project Fund Codes, shown above.

The fund codes listed are those that are on the project/shell funding sheet. For each row, you will need to allocate how much of the fund to make available to the commit. You can do that now or wait until all the rows have been added.

Allocating Fund Amounts to a Commitment Funding Sheet Row

You allocate the project/shell funds to use for each fund directly on the commitment funding sheet per row. The commitment funding sheet must have a column that uses the data source **Funding Across All Rows**. This is the column to use for fund allocation.

The **Funding Across All Rows** column can be manual entry or formula.

- If it is manual entry, you can enter the fund allocation amount directly to the cell.
- If you use a formula, you must also include another manual entry column in the commitment funding sheet to use to enter an amount and include that in the formula. For example, you might want to use a ratio of certain funds in the initial allocations. You can add a manual entry column, and then use the formula calculation for the **Funding Across All Rows** column.

To allocate fund amounts to a commitment funding sheet row:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. For each row, double-click the cell of the column you are using for the manual entry portion of fund allocation (for example, the **Funding Across All Rows** column). This makes the cell editable.
4. Enter the amount to use for fund allocation.
5. Select **Save** to save your changes.
When you save the commitment funding sheet, the system runs a validation check to ensure that the allocation amounts do not exceed the fund balance of each fund on the project/shell funding sheet.

Assigning and Crediting Commitment Level Funds

Assigning (consuming) or crediting funds on a commitment funding sheet is similar to a project/shell funding sheet, with some exceptions. This section assumes that the concepts of assigning and crediting funds of project/shell funding sheets is already understood.

As with project/shell funding, fund consumption on commitment funding sheets is done using General Spends or Payment Application business processes that have been designed to consume funds.

When the General Spends BP is linked to a Base Commit BP that has been enabled to do commitment funding, the funds are consumed from the commitment funding sheet, not the project/shell funding sheet.

As in project/shell funding, funds are assigned from the General Spends BP record based on the amount of that General Spends BP record.

The behavior of funding business processes depends both on the design options chosen and the **Assignment Levels** chosen on the commitment funding sheet properties.

Like project/shell funding, fund assignment can be done manually or automatically (by fund balance ratio). This is determined in the **Fund Assignment** rules set in the sheet Properties.

The **Commitment Funding Sheet (<Base Record Name BP>)** window shows the commitment funding sheet for the base record BP that you have selected to open. The window shows the currency information and the Unassigned (Commitment Level). If you select the amount link, on top, the **Manual Fund Assignment** window opens which displays the details of the fund assignment such as the unassigned amount and name, title, the assigned amount, remaining unassigned, description, and totals.

When you select the unassigned commitment level value, the Manual Funding window opens.

Note

This Manual Funding window is similar to the Manual Funding window of a project/shell funding sheet. The only difference is that in the Manual Funding window of a commitment funding sheet you can assign funds only from the allowed fund codes (this is governed by Fund Code selection in Fund Assignment window).

To prevent assigning wrong fund codes, the window displays the fund codes that are not allowed as read-only.

In this scenario, when you open the Manual Assignment window (from Transactions), the Manual Assignment window will only include the selected rows.

About Business Processes Enabled for Commitment Funding

Commitment funding is enabled on the CBS-code-based Base Commit (Base Commit BP that is based on CBS Codes). The design of the Base Commit BP forms determines when the **Funding** option appears on the Base Commit BP record, or the Change Commit BP record. The **Funding** option allows you to create the commitment funding sheet for the BP record and also to access the funding sheet from the BP record.

Note

The commitment funding sheets can also be accessed directly from the commitment funding sheet log.

As in project/shell funding, you use General Spends type BPs (for example, Invoices or Payment Applications) to consume funds. If the General Spends type BP is linked to a Base Commit BP that is enabled for commitment funding, the General Spends type BP record will consume funds from the commitment funding sheet rather than the project/shell funding sheet.

If you will be doing both the project/shell funding and the commitment funding, use a different set of linked Base Commit / Change Commit / General Spends business processes for each funding.

Viewing Unassigned Amounts (Commitment Level)

When the General Spends BPs are set up to be funded manually, the amount of the General Spends BP, initially, is captured in the **Unassigned (Commitment Level)** field on the commitment funding sheet. This value displays until the entire amount of the record has been fully funded.

For a project/shell level funding, the amount displays in the Unassigned (Project Level) field; for CBS level funding, the amount shows up in the Unassigned (CBS Level) field.

It is possible that an unassigned amount can be negative, as the result of a credit invoice that has not yet been credited back to the funding source.

Note

These unassigned amounts can also be rolled up to the Cost Sheet using the **Unfunded Record** data source.

To view unassigned commitment funding sheet amounts (commitment level):

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. Open the commitment funding sheet for the base record BP that you want to see the unassigned amount for: **Commitment Funding Sheet (<Base Record Name BP>)**. The window shows the currency information and the Unassigned (Commitment Level). If you select the amount link, on top, the **Manual Fund Assignment** window opens which displays the details of the fund assignment such as the unassigned amount and name, title, the assigned amount, remaining unassigned, description, and totals (transaction records that have not yet been fully funded).
If business process transactions have occurred that have not yet been funded, the total of the records will display in the Unassigned field in the upper portion of the sheet.

Assigning or Crediting Unassigned Funds on the Commitment Funding Sheet

If there are unassigned funds, you can assign them manually from the General Spends BP record or from the commitment funding sheet.

When the General Spends BP record reaches a specified workflow step or status, the **Funding** options appears on the BP form. When you select **Funding**, the **Funding** window opens allowing you to do manual fund assignment.

If a credit invoice (negative line item or invoice amount) has been submitted, this can be used to credit previously consumed funds back to the source or can be used to credit another fund. You cannot credit an amount that is more than has been consumed.

To manually assign funds from the commitment funding sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Funding Sheet** to open the **Commitment Funding Sheet** log.
3. Open the commitment funding sheet.
4. From the top portion of the window, select the link next to Unassigned (Commitment Level). This link displays the amount of funds that are not currently assigned to a particular fund. The **Cell Detail** window opens. The **Cell Detail** window displays the list of spends business process records that have not yet been fully funded. A record can appear on this list if you do not have enough funds available during an auto-assignment process, or if you set Manual as the assignment rule for the business process under the funding sheet **Assignment** tab.
5. Enter a percent (%) amount for each record against a funding source.
6. Select **OK**.

To manually assign or credit funds from a General Spends BP record:

1. Open the General Spends BP record that needs to be funded. If the General Spends BP record is at a specified workflow step and status that allows funding, the **Funding** option appears.
2. From the toolbar, select **Funding** to open the **Funding** window.
3. Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.
4. Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.
5. Select **OK**.

To manually assign or credit funds from a General Spends BP record:

1. Open the General Spends BP record that needs to be funded. If the General Spends BP record is at a specified workflow step and status that allows funding, the **Funding** option appears.
2. From the toolbar, select **Funding** to open the **Funding** window.
3. Select a line item from the upper pane. The bottom pane will display a list of funds that are available for that line item.
4. Enter the amounts for fund assignment. This is subtracted from the fund balance. For credits, enter negative amounts; the amount entered is added back to the fund balance.
5. Select **OK**.

Automatic fund assignments at the commitment level

Automatic fund assignment works similarly at the commitment level as it does in project/shell funding. The available automatic funding option is auto-ratio by fund balance (if All Funds is chosen in the **Fund Assignment** window), or a specific (discrete) fund can be used.

See [Manual and Automatic Fund Assignment](#), [About Crediting Funds](#), [About Commitment Funding Assignment Options](#), [About Commitment Funding Columns](#).

Accounts Sheet

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project/shell cost sheet, using account codes instead of CBS codes.

Working with Company Accounts Sheets

The company accounts sheet is used to track company level accounts information, such as assets, resources, and facility maintenance. It is similar to a project/shell cost sheet, using account codes instead of CBS codes.

Account codes are independent of CBS codes, but are similar in structure format. Company-level business processes can be designed in uDesigner to roll up to the accounts sheet (line items are associated with account codes).

Open the accounts sheet

To open the accounts sheet:

1. Go to the **Company Workspace** tab, and switch to **User** mode.

2. In the left Navigator, select **Cost Manager**, and then select **Accounts Sheet**.
3. In the **Accounts Sheet** log, select the sheet, and select **Open** (example below).

Note

When you first open the sheet, the opening view will depend on the **Default View** option selected in the Properties window. Your accounts sheet administrator can set this default view. Accounts sheets can be resized and split/unsplit the same way as project/shell cost sheets (see [Resize cost sheet window](#) or [Split or unsplit cost sheet window](#)).

The accounts sheet works similarly to cost sheets. Like cost sheets, you can:

- Enter data into manual data-entry columns.
- View rolled up transaction details by selecting a cell with a hyperlink.
- View a column definition by selecting a column heading.
- Copy column data from one column to another (from the **Edit** menu, select **Copy Column Data**; the original values will be overwritten).
- Save and view snapshots (from the **File** menu, select **Create Snapshot**; from the **View** menu, select **Snapshot Log**).
- Import and export column details.
- Export accounts summary sheet.

Activate or deactivate account codes

You can control the status of account codes. If an account code is inactive, it will be displayed on the accounts sheet, but will not be available for selection in an Account Code picker, such as on company account business process transactions.

To activate or deactivate an account code:

1. Open the accounts sheet.
2. Select **Account Status**. The Account Code Status window opens.
3. Select one or more account codes.
4. Select **Activate** or **Deactivate**.

View or edit accounts sheet properties

Accounts sheet properties can be viewed and edited. The ability to edit properties is dependent on your user permission settings. Contact your project or company administrator if you have questions regarding your user permission settings.

To view or edit accounts sheet properties:

Select the accounts sheet from the log, and select **Properties**; or open the accounts sheet, go to the **File** menu, and select **Properties**. The Properties window opens. The following properties are displayed and are editable by the cost administrator:

- **Title**: This is the title of the sheet and appears in the log.

- **Description:** This optional field can be used to provide a description or other information about the accounts sheet.
- **Display Mode:** This determines whether the accounts codes are displayed in a flat list, or a hierarchical tree mode. This setting can be switched back and forth as needed.
- **Default View:** These are the settings that determine how the sheet appears when first opened by any user from the log.

Generic Cost Manager

A "Generic Cost Manager" captures non-CBS cost-related activities for a configurable shell. These include costs such as:

- Rent
- Lease payments
- Landscape care
- Building maintenance and repair
- Remodel of building interiors

With this manager, you can capture and view cost transaction information based on a timescale, such as quarterly or yearly. Each shell can have one Generic Cost Manager. The Generic Cost Manager uses specific generic cost business processes as data sources.

Most of the functionality for the Generic Cost Manager is the same as that for the standard Cost Manager. Rather than re-document all the cost management sheet functionality that is common between the Generic Cost Manager and the standard Cost Manager, this section documents the differences between the managers and explains that functionality in context of the task you will be performing.

Note

The names of the Generic Cost Manager, the various shells and sub-shells, and the generic cost sheet you will work with are determined by the names defined in uDesigner. For documentation purposes, in these instructions, this manager is referred to as the Generic Cost Manager.

The Generic Cost Manager:

- Defines a code structure that can be used to capture cost-related activities for a configurable shell.
- Tracks and rolls up costs to upper management levels
- Enables interaction with cost data
 - Operating budgets (monthly, quarterly, yearly)
 - Projects with life cycles that span over extended time
 - Costs covering the entire life cycle of the product/operation
 - Transactions based on timescale
 - Transactions in varying currencies

The following procedures discuss how to access and work with generic cost sheets. The generic cost sheet is created from a template.

Data Sources for Generic Cost Sheets

The Generic Cost Manager uses information in cost sheets that is manually entered, calculated, or comes from Generic Cost BPs. The difference between the Generic Cost Manager and the standard Cost Manager is that the data used in the Generic Cost Manager comes from shells and sub-shells, not from projects.

The Generic Cost Manager uses specific Cost BPs as a data source. These BPs have the type cost and the classification Line Items with Multiple Codes.

Opening Generic Cost Sheet

To open a generic cost sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Manager**, and then select **Generic Cost Manager**.
The **Generic Cost Manager** log lists all the generic cost sheets.
3. Select a generic cost sheet, and select the *gear menu* (⚙️) to open it.
4. Select **Open** to open the generic cost sheet (**Generic Cost Manager** overlay window) log.

You work with a generic cost sheet in the same way as a standard cost sheet, seen in projects and CBS shells. The difference is that the data in the generic cost sheet comes from generic shells and sub-shells. The first two columns are displayed by default. The view is fixed, and there is no split screen capability.

Viewing Data for Shells and Sub-shells in Generic Cost Sheet

The generic cost sheet displays transactional data by period and shell level. In the context of working with the generic cost sheet, you can filter the cost data you are viewing by shells or sub-shells. You can use the shell or sub-shell filter in combination with the timescale selector documented in the next section to create various views in your spreadsheet based on shell or sub-shell and time period.

See [Working with Configurable Manager Sheets \(Standard View\)](#) for additional details.

In the **View By** selection list, choose one of the following:

- **Current Shell only:** Data from the current shell you have selected. Manual column data is editable in the Current Shell only view.
- **Current Shell and Sub-shells only:** Data from both the current shell and its sub-shells.
- **Sub-shells only:** Data from the sub-shells of the current shell.

In Generic Cost Sheet views, data is rolled up from the current shell and sub-shells. To ensure the data rolls up correctly, maintain the same column structure on the generic cost sheet across the parent shell and sub-shells. When data is rolled up from sub-shells, the generic cost sheet under a shell can roll up data from other shells that are created as sub-shells and their sub-shells. The Current Shell and sub-shells only and **Sub-shells only** views support this rollup. For example:

- North Region (shell)
 - Property A (sub-shell)
 - * Building 101 (sub-shell)
 - * Building 102 (sub-shell)
 - Property B
 - * Building 201
 - * Building 202

In this example, the North Region Generic Cost Sheet will have data from Property A, Property B, Building 101, Building 102, Building 201, and Building 202. Property A has data from Building 101 and Building 102. Property B has data from Building 201 and Building 202.

Also, data from a sub-shell to its parent shell can only roll up if the codes match. For example,

- North Region (Shell)
 - Property A (1000-1001: \$500)
 - * Building 101 (1000-1001: \$500)
 - * Building 102 (1000-1002:\$200)

In this example, Building 101 will roll up to Property A as the codes match (1000-1001). Building 102 will not roll up because the codes are different (1000-1002). Parent and child shell cost codes must match for roll up to occur. Timescale and column definition must also match across the shells and sub-shells.

Also, all sub-shells that will roll up must have the same currency as the parent shell. If all the sub-shells and the current parent shell have the same currency, the data displays in that currency. If at least one sub-shell has a different currency, the data displays in the Base Currency. A confirmation message alerts you to this currency display.

While rolling up, only parent shell generic cost sheet codes should be considered. This is applicable under all views.

Change the Timescale on a Generic Cost Sheet

With the Generic Cost Manager, you can capture and view cost transaction information based on a timescale, such as monthly, quarterly, or yearly. For example, you might be working with time-based transactions such as lease payments. In the context of working with the generic cost sheet, you can change the timescale on the cost data with which you are working. You can use the shell or sub-shell filter described in [Viewing Data for Shells and Sub-shells in Generic Cost Sheet](#) in combination with the timescale selector to create various views in your spreadsheet based on shell or sub-shell and time period.

To change the timescale on generic cost sheet data by shell or sub-shell:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Manager**, and then select **Generic Cost Manager**.
The Generic Cost Sheet log opens.
3. Open the cost sheet you want to work with by double-clicking the cost sheet name, or by selecting the cost sheet name in the log, selecting the *gear menu* (⚙️), and selecting **Open**.
4. Select **Display Period**. The Display Period window opens.

5. Select a date range (**Monthly**, **Quarterly**, or **Yearly**) and the time period to go with the range. The data for the timescale you select is displayed in the cost sheet. The default view is Monthly and shows the current month. Data is always stored in months. Changing the timescale units updates the totals based on the period and the calendar year.

Monthly view data is only editable in the manual columns of the Current Shell view. Quarterly and Yearly views are read-only.

Modify Shell and Base Exchange Rates for Manual Data Entry

Data entered manually (directly) on a generic cost sheet should have a rate associated with it. This is because any transaction that occurs under a shell will be calculated and stamped with two currency rates: the shell currency and Base Currency. The rate in this case will be the conversion rate between the shell currency and Base Currency (the Base Currency is the company currency).

When you modify the exchange rate, the new rate takes effect for the currency month and applies until you change it again. You can revert it to the rate stored in the shell properties. The modified exchange rate applies only to data you enter manually on the sheet. It does not affect data that is entered through business processes, which uses the exchange rate from shell properties.

To view exchange rate history:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Manager**, and then select **Generic Cost Manager**.
3. Open the applicable generic cost sheet.
4. From the toolbar, select **Menu Options** (☰), and select **Exchange Rate History**.

To view the data in either the shell or Base Currency:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Configurable Manager**, and then select **Generic Cost Manager**.
3. Open the applicable generic cost sheet.
4. From the toolbar, select **Switch to Project Currency** (🔄) to switch between Base Currency and Project Currency.

Export Generic Cost Sheet data

You can export the structure of a generic cost manager.

Print options

In the **Generic Cost Manager** log, select the sheet, select the *gear menu* (⚙️), and select **Open** to open the **Generic Cost Manager** window. From the toolbar, select **Print** (🖨️), and select one of the following:

- **Print**
- **Export To CSV**
- **Export To Excel**

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Export options

In the **Generic Cost Manager** log, select the sheet, select the *gear menu* () , and select **Open** to open the **Generic Cost Manager** window that displays all the columns. Select **Menu Options** () , select **Export**, and select one of the following options:

- **Summary Sheet**
- **Cost Codes**
- **Column Data**

Proceed with following the prompts.

Note

If you open the CSV file, you will see that it contains notes regarding modifying the columns and data in the exported file for reimporting into a cost sheet. Follow the notes embedded in the CSV file for modifying columns and data in the exported file.

Import Generic Cost Sheet data

You can import the structure of a generic cost manager.

In the **Generic Cost Manager** log, select the sheet, select the *gear menu* () , and select **Open** to open the Generic Cost Manager window. From the **Menu Options**, select **Import**, and select **Cost Codes**. Browse for the CSV file to import, select it, and select **Open**.

You can also select **Column Data**, from the **Import** options, to open the Import Column Details window and select a column to import.

Note

The **Import** option is only available when the **View By** menu is set to **Current Shell Only**.

Working with Generic Cost Business Processes

The Generic Cost Manager can use generic Cost BPs as data sources. These BPs are created in uDesigner. These generic Cost BPs work only with the Generic Cost Manager, and also only in the context of a shell. The possible Generic cost BP types are:

- **Generic:** Reference against company-level commit; enforce against company-level commit amount.
- **Transfer:** Transfer value from one code to another.
- **Base Commit:** Creates an entry in the Commitment Summary. Works in conjunction with change commit and general spends generic Cost BPs. Reference against company-level commit; enforce against company-level commit amount. Select **Commitment Summary** to access the Commitment Summary.
- **Change Commit:** Works in conjunction with base commit and general spends generic Cost BPs. Updates the Commitment Summary. Reference against company-level commit; enforce against company-level commit amount. Select **Commitment Summary** to access the Commitment Summary.
- **General Spends:** Works in conjunction with base commit and change commit generic Cost BPs. Updates the Commitment Summary. Select **Commitment Summary** to access the Commitment Summary.
- **Lease:** Works in a shell to manage lease payments and payment history.

View and edit the Commitment Summary

When a base commit record goes to Terminal status, it creates an entry in the Commitment Summary for the shell. When change commit and general spends records go to Terminal status, they update the associated base commit record in the Commitment Summary. If you have the appropriate permissions, you can view and edit the Commitment Summary.

To view and edit a Commitment Summary for a shell:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Summary**.
3. In the **Commitment Summary** log, select the Commitment Summary, and select **Open**.
4. From the toolbar, select **Create Structure** to add columns to the sheet.
5. To view or edit the sheet properties, select **Edit**, and then select **Properties**. In the General tab, enter a unique name and an optional description. In the Options tab, enter the following column names: **Ref**, **Cost Code**, **Code Name**, **Breakdown**, and **Description**. Depending on the design in uDesigner, some columns may not display in the Commitment Summary sheet.
6. Select **OK**.

Drill down from the Commitment Summary to related BPs

You can view BP information for the various entries in the Commitment Summary.

To drill down from the Commitment Summary to related BPs:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, and then select **Commitment Summary**.
3. In the **Commitment Summary** log, select the BP reference in the Commitment Summary. The Cell Detail window opens.

4. Select **Close Window** when you are done viewing the BP information.

Cost Manager (Standard)

The standard Cost Manager and the Generic Cost Manager work much the same way, but with different areas in the system. This table lists the areas and the indicates which cost manager works with each area.

The cost data from Projects/Shells (CBS) can roll up to the Company level. The cost data from Shell (Generic) does not roll up to Company Level. For more information about the Generic Cost Manager, see [Setting Up a Generic Cost Manager](#).

Cost Manager	Company	Shell (CBS)	Shell (Generic)
Cost Manager (for CBS codes)	X	X	
Generic Cost Manager			X

The Generic Cost Business Process (BP) works with the Generic Cost Manager only in the context of a Shell. For more information about the Generic Cost Manager BP, see [Working with Generic Cost Business Processes](#).

There is one accounts sheet per company. There is no template for an accounts sheet. After creation, you add columns and rows. The columns can be formulas, they can roll up data from company cost (accounts) business processes, or they can roll up asset data, project/shell cost data, or resource data. Adding rows to the accounts sheet creates the account codes that are used. You must activate the account codes after adding the rows.

Optional steps:

To roll up transactions to the accounts sheet, you must create and set up company-level cost business processes (also known as an account type business process). These BPs use account codes rather than the CBS codes used in project/shell-level cost BPs. These are discussed in the Business Process sections. Other options assume that you have configured and set up an Assets Sheet (for rolling up asset data).

Rules and Rule Exceptions

The system employs a rules engine to help control costs as they roll up to the Cost Sheet. Your administrator creates rules to work with the rules engine. For example, your administrator might create a rule that enforces a budget limit on contracts so that invoices do not exceed the contract amounts.

When a cost exceeds a rule, it triggers a "rule exception," and the system displays a message that warns you of the exception. The window shows the level of the rule, an identifier, the rule that was exceeded, the current value of the field, and the value that triggered the rule exception.

Rule exceptions can be triggered by:

- Adding or copying a line item on the Cost Sheet
- Copying data from one column to another on the Cost Sheet
- Entering data directly into a cell on the Cost Sheet
- An email action that sends cost data to the sheet

- An integration transaction that sends cost data to the sheet
- I-Step and S-Step business process auto-creation
- A business process record that rolls up cost data to the sheet

Some users can override a rule violation. These users are specified when the administrator creates the rule. These users can choose to override the exception or accept it.

If you override the rule exception, the system sends your user information and any comments you include to the audit log. If notification was specified when the rule was created, those users who were designated will be notified by email of the override.

If you accept the rule exception (select **Cancel**), you will stay on the current step.

Note

The system does not display the rule exception warning if the cost data comes from an email action, an integration transaction. If you have override control, the system will assume that you want to override the rule and sends information to the audit log.

When your administrator creates a rule template:

- If the **Include positive pendings in calculation** checkbox is selected, the system adds the positive pending values when calculating the **Limit Expression**.
- If the **Include negative pendings in calculation** checkbox is selected, the system adds the negative pending values when calculating the **Data Expression**.

Note

Your administrator can check one or both options, when creating a rule template.

The rule is implemented during runtime (as a cost type BP is routed in its workflow or is **Finish Edited**) and according to your choices.

Cost Rules Impacting Cost Manager

The following cost rules affect how you can work with the **Cost Manager** sub-modules:

- **Budget**
 - The Budget must be greater than 0.
 - This rule validates that a budget line item cannot be reduced below \$0.
- **Revised Budget**
 - The Revised Budget must be greater than or equal to Approved Commitments.
 - This rule validates revised budget (approved budgets, budget transfers and budget changes) versus approved commitments (approved contracts, change orders, purchase orders and PO amendments).
- **Invoice**
 - An Invoice must be less than or equal to Approved Purchase Orders and PO Amendments.

- This rule validates invoices (approved invoices) versus approved purchase orders (approved purchase orders and PO amendments).
- **Payment Application**
 - A Payment Application must be less than Approved Contracts and Change Orders.
 - This rule validates approved payment applications vs approved commitments (approved contracts, change orders).

The following actions can trigger the cost rules:

- When you attempt to send a Business Process record to the next step, whose status activates the rule. For example, the rule may activate when a Business Process record reaches to the Pending or Approved status.
- When you have entered the data into a Cost Sheet manually.
- Web Services calls create records.
- Records are auto-created from other records.

P6, Cost Manager, and Cash Flow

You can copy the Cash Flow curve properties that exist in a Shell template to the Cash Flow curves that exist in instances if:

- The Shell template push is done
- The Shell template is used to create instances

To view information:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **P6 Summary Sheets**.

The system uses the P6 data source that was used in the Cash Flow template as the reference for attaining the Summary Sheet data information. To view information:

For example, if the Type in your P6 Summary Sheets is Current Schedule, then in the Cash flow by CBS - Baseline window the Current Schedule was selected for the Use data from P6 Source field. That is, if you select data from P6 Source, along with the source and data type, the Cash Flow template has the P6 data source as Current Schedule for your Shell template and a new Shell is created in Unifier. The system pushes the Shell template to the new Shell and the Cash Flow curves are generated.

When P6 and Unifier are synced, the Shell has been integrated with P6 (that is, the Type or P6 data source of the Summary Sheet is Current Schedule) and the Cash Flow data is calculated correctly. If the distribution option selected in the Cash Flow template is a valid option for Cost loaded Cash Flow curve, the data in Cash Flow curve is calculated correctly.

If the properties in the Cash Flow curves are incorrect, the curves display in red, in the Properties window. You must change the Distribution, or Schedule, option if the Cash Flow curve is opened based on the Schedule type.

If the Schedule type of the Shell is Cost- or Resource-based, in:

- The Distribution section the "Use data from P6 Source" option is enabled.
- The Schedule section the "Use dates from P6 Source" option is disabled.

If the Schedule type of the Shell is Duration-based, in:

- The Distribution section the "Use data from P6 Source" option is disabled.
- The Schedule section the "Use dates from P6 Source" option is enabled.

See the following sections for additional information about P6 Data source:

- [Adding a Baseline Curve for Cash Flow by Summary CBS or CBS](#)
- [Adding Actuals \(Spends\) Curve for Cash Flow by CBS Summary or CBS](#)
- [Adding a Forecast Curve for Cash Flow by CBS Summary or CBS](#)

Document Manager

The Document Manager provides a robust platform for maintaining a wide variety of files and documents, for example, drawings, spreadsheets, image files, specifications, and various Microsoft Office files. Files can be stored directly in the project/shell Documents node or organized into folders. You can also create shortcuts to commonly used files and folders. The system ensures that all members of your team are always working on the most current versions, and dramatically increases efficiencies by providing ready access to all documents from anywhere at any time.

The Document Manager is available at the project/shell level for project/shell-specific documents, and at the company level for company-specific or cross-project/shell documents. At the project/shell or company level, the Document Manager is integrated with business processes and the user-defined reports module. Files uploaded into the Document Manager are stored on the Unifier file server.

The Document Manager is integrated with business processes. This means that you can initiate a business process directly from the Document Manager and automatically attach files and folders to it. In addition, if designed to do so, any business process can automatically publish records, along with their comments and attachments, to the Document Manager. In effect, this produces a detailed audit trail of the business process. Depending on how your administrator set up the business process, it can be automatically published to the Document Manager at a specific step in a workflow, or whenever an email notification is sent regarding the status of the business process, or both.

At both the project/shell level and the company level, the Document Manager consists of two nodes:

- **Project or shell/Company Documents:** This is the root node where published documents (that is, documents that are ready to be used by team members) are stored and managed. (The node is labeled project/shell Documents at the project/shell level, and Company Documents at the company level.) You will typically work out of this node when working with your company or project/shell documents. All uploads, downloads, revisions, markups, and so on, are performed within this node. Access to specific folders, documents, and shortcuts is independently controlled by permissions.
- **Unpublished Documents:** This is the temporary, automatic repository for files that have been uploaded from local machines and attached to business processes, but have not yet been published in project/shell documents or company documents. Typically, access to this node is limited by permissions, and a designated document administrator will publish documents from this node into the project/shell or Company Documents nodes for use by team members.

Note

By default, files attached to business processes are placed in the **Unpublished Documents** folder in the Document Manager. A Publish Path data element can be designed in business processes to specify the automatic publishing of documents to a specified path and override the default.

For information about language (internationalization) and CSV files, refer to the *Unifier General Administration Guide*.

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager
- Business processes (BPs)
- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact. Depending on the location of the infected file, the system might display a bug icon  (if the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).
- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later.
For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.
- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

Before You Begin Working with Document Manager

Ensure that you have the following defined in your user preferences.

- **File Viewer option:** This option affects how files are opened and viewed within the system.
- **Additional software applications:** Use of the AutoVue viewer markup tool requires a license and Java installed. For translation-related information about Oracle Map, AutoVue Server, and Flex replacement (O charts), refer to the *Unifier General User Guide*.
- **Permission settings:** Like other modules within the system, access and use of the Document Manager is fully permission based, including for specific files and folders. Contact your project/shell or company administrator regarding general permission access to the Document Manager.

Note

For security, the Company Administrators can use the **Security** tab on the **Company Settings** page to specify the type and size of files that can be uploaded by users and per company policy. Contact your Company Administrator for more information.

Downloading AutoVue Client Certificate

Before you can use AutoVue, you must download the AutoVue Client certificate and place it in the browser certificate exception list. Follow these instructions for each user accessing Unifier AutoVue.

For more information, refer to the "Setup for Java Web Start AutoVue Client in HTTPS Environments" page of the [Oracle Support](#) Knowledge tab.

Downloading on Windows

To download the localhost certificate:

1. In Unifier, select **View Help menu**, and then select **Download Plugins**.
2. From the **Download** page, select the download for the localhost certificate.
3. Double-click to open the **localhost.cer** file you just downloaded.
4. Select **Install Certificate** to start the Certificate Import Wizard.
5. Select the store location (**Current User** or **Local Machine**), and select **Next**.
6. Select the option **Place all certificates in the following store**, and select **Browse**.
7. Select the **Trusted Root Certification Authorities** store, and select **OK**.
8. Select **Next**, and select **Finish**. A dialog box opens warning you about the risk of installing this certificate.

9. Select **Yes** to accept installing this certificate.
10. After the install certificate has imported, select **OK**.

After installing the localhost certificate, you can use AutoVue client in Google Chrome. For Mozilla Firefox, perform these additional steps:

1. Open a new tab and type: **about:config**.
2. In the **Search** box, type **security.enterprise_roots.enabled**.
3. Double-click **security.enterprise_roots.enabled** to set the flag to **True**.

For more information on installing the certificate in Mozilla Firefox (and if your Firefox version is lower than version 49), refer to the Mozilla wiki page (<https://wiki.mozilla.org>): Installing Certificates Into Firefox.

Downloading on Mac OS

To download the localhost certificate:

1. In Unifier, select **View Help menu**, and then select **Download Plugins**.
2. Double-click the downloaded **localhost.cer** file to add it to Keychain Access.
3. From the **Keychain Access** window, open the localhost certificate.
4. Expand the **Trust** node and set the value of the **Secure Dockets Layer (SSL)** field to **Always Trust**.
5. Close the Keychain Access window.

Launching AutoVue Web Start Client

Windows

- Using Mozilla Firefox
The AutoVue JNLP file is automatically downloaded and a confirmation message is displayed. Select the **Open with** radio button, and select **OK**.
To open AutoVue files automatically and bypass the confirmation message, select the **Do this automatically for files like this from now on** checkbox.
- Using Google Chrome
The AutoVue JNLP file is flagged as a dangerous file extension. Each time you open an AutoVue file, you must select the **Keep** option and open the downloaded file from the **Downloads** folder.

Mac OS

Modify Security Settings

1. Select the **Apple** menu, and launch **System Preferences**.
2. Select **Security & Privacy**.
3. Select the **General** tab.
4. For the **Allow apps downloaded from** option, select **Anywhere**.
This option is available for Mac OS X El Capitan. For other Mac operating systems, refer to the pertinent installation guides.
5. Select **Allow From Anywhere** to confirm your selection.

Launching AutoVue Files

- Using Google Chrome
When an AutoVue file is opened a confirmation message is displayed. Select **Open** to open the file in AutoVue.
- Using Safari
Open **Preferences** and select the **Privacy** tab and check the **Always Allow** option under **Cookies and website data**. The AutoVue JNLP files are permanently saved on the disk, you can launch the file from the **Downloads** folder.

About Ownership and Permissions

Like other modules, access to the Document Manager features is based on permissions set at the module level in Admin mode. Each Document Manager node—project/shell Documents, Company Documents, and Unpublished Documents—have separate permissions. The **Unpublished Documents** node is controlled by module-level permissions in Admin mode only.

In the project/shell and Company Documents nodes, access to specific folders, documents, and shortcuts is also independently controlled by permissions that can be set within the Document Manager.

Note

Folder and document permissions are set at the folder level and can be changed independently or inherited by subfolders and documents. Unlike module-level permissions, permissions set at the folder level can differ from project/shell to project/shell.

The creator of a folder, document or shortcut is, by default, its owner, and has full access (privileges to view, manage, grant permissions, delete, transfer ownership, and so on). The owner must grant other users or groups permission to view and manage these documents, folders, or shortcuts. Otherwise, other users will not have access to them. (Exception: some administrators will have access permissions and will be able to view all items in the document manager.)

For this reason, it is also important to verify the permission settings for all files and folders that you upload, create, revise, check in, copy, or modify to make sure that it is accessible by the people who need them. For example, if one user creates folders, and then another user attempts to move documents among those folders, the move will not be permitted by the system unless that user attempting that move has specific permissions granted (in this case, Copy and Delete to achieve the document move).

For more information about permission settings, see [View, Add, or Modify Folder Permissions](#), [View, Add, or Modify Document Permissions](#), and [Modify Shortcut Permissions](#).

Note

Document Manager email notifications as set in User Preferences are only sent if the user has at least view permission in the **Document Manager** node on the item triggering the email, and if the item owner enables email notification. If you make changes in the Document Manager root folder, to get email notifications regarding events in the root folder, you must have at least view permission because the root folder has no owner.

Automatic Publishing of BP Records to the Document Manager

A business process can be designed to automatically publish its records, along with their comments and attachments, to the Document Manager in a folder the administrator specifies when the business process is set up. In effect, this produces a detailed audit trail of the record information through the business process (for both workflow and non-workflow processes). You can open these records and their information from the Document Manager.

Depending on how the administrator sets up the business process, the record information can be automatically published to the Document Manager when the business process reaches a specific step in a workflow, or whenever an email notification is sent regarding the status of the business process, or both. According to its setup, the business process will publish the record to a designated folder in the Document Manager. If you, as owner of the record, do not have permission for this folder, the system will send the record and its contents to the **Unpublished Documents** node in the manager. If the record exists in the folder, the system will publish the record as a revision. If the folder's path in the business process record is invalid for any reason, the record will be sent to the **Unpublished Documents** node.

On the Creation Step of the Workflow-type business process, the system evaluates, or replaces, the "record_no" in the data element "uuu_dm_publish_path" or in the data element "uuu_dm_record_info_path," when the "record_no" is used directly as part of formula, as shown in the example below. This condition (evaluation or replacement) does not apply to the "Advanced Formula" type data element.

Example:

Suppose 'uuu_dm_publish_path' and 'title' are defined as formula.

=> uuu_dm_publish_path = firstName + record_no + title

=> title = subject + record_no

uuu_dm_publish_path would be evaluated as 'firstName + record_no + subject' ('record_no' in data element 'title' is ignored)

Enabling Document Manager-Generated Email Notification

As with other modules, there are events in Document Manager that can trigger email notifications to other team members. There are three conditions that must be met for a user to receive Document Manager emails:

- **Folder Properties, Options tab:** The owner or a user with modify properties permissions on a folder can select the **Send email notification to subscribed users** checkbox on the Options tab.
This option enables notifications to be generated in the first place for items in the folder. That is, select the checkbox to notify users whenever the folder properties are modified. If the checkbox is not selected, no emails will be generated for the folder (or subfolders either, unless the box is selected for subfolders).
Selecting or deselecting this checkbox will automatically apply to all subfolders automatically. This option will not override a user's email subscription selection in User Preferences.
- **Permission setting in Document Manager:** A user has to be explicitly assigned at least view permissions (at the folder or document level in the Document Manager) to the specific folder, document, or shortcut target to subscribe to email notifications.

For example, even if users have full access permission at the module level, they will not get email notifications unless they are on the permission list for the folder, document, or shortcut for which the e-mail notification would normally be generated.

- **Email Subscription Preference:** The user must subscribe to the Document Manager email notifications in User Preferences.
The events that can trigger email notifications are document upload, transfer ownership, move, delete, document revise, and folder rename.

Working with Project or Shell and Company Documents

The project/shell Documents node (in the project/shell-level Document Manager) and the Company Documents node (in the company-level Document Manager) are the root nodes in which published documents (that is, documents that are ready to be used by team members) are stored and managed. You will typically work out of these nodes when working with your company or project/shell documents. All uploads, downloads, revisions, markups, and so on, are performed here.

Permission-based access: Similar to a shared network storage drive, access to specific folders, files, and shortcuts is independently controlled by permissions. The user who creates a folder or shortcut, or uploads a file, is, by default, its owner, and has full access (privileges to view, upload, delete, download, and so on). The owner (could be the project/shell or company administrator) can set these permissions to allow or disallow access by other team members. For this reason, it is important to verify the permission settings for all files or folders of which you are the owner to make sure that they are accessible by the people who need them.

Editing and version control: The project/shell Documents and Company Documents nodes have check-in and check-out, document lock, and revision history capabilities enabling full version control.

Use with business processes: The Document Manager is integrated with business processes. You can initiate a BP from directly within the Document Manager and automatically attach selected files and folders.

Reporting: In addition, document and folder properties are associated with data elements, and are therefore fully reportable through user-defined reports.

Note

The Document Manager does not support multibyte or Unicode characters in file names.

Accessing Project or Shell Documents and Company Documents

To access project or shell documents:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.

To access company documents:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Company Documents**.

Navigating Document Manager

The following explains the options that are available in both the company level and the project/shell level **Document Manager** grouping node.

Navigating to Company Documents in Document Manager

1. Go to the Company Workspace tab, and switch to **User** mode
2. In the left Navigator, select **Document Manager**.
The following functional nodes appear under the **Document Manager** grouping node:
 - **Company Documents**
 - **Unpublished Documents**

Navigating to Project/Shell Documents in Document Manager

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**.
The following functional nodes appear under the **Document Manager** grouping node:
 - **Documents**
 - **Unpublished Documents**

Note

Navigation in the **Document Manager** grouping node works the same way at the company level and the project/shell level, when in **User** mode, as explained below.

The documents log (for both the Company Workspace and the project/shells) displays the contents (subfolders, documents, empty documents, shortcuts) of the folder selected. If you are viewing the log using Tree View, you can select the plus sign (+) next to the folder name to expand it and reveal subfolders, or you can select the minus sign (-) to collapse the structure. If you are using Tree View, you can also hover over a folder to view the number of subfolders and documents under it.

Note

If you are using a custom user mode navigator, you must add the **Recycle Bin** to the navigator.

Navigating to Company Documents in Document Manager

The following functional nodes appear under the **Document Manager** grouping node in your Company Workspace (**User** mode):

- **Company Documents**
- **Unpublished Documents**

Company Documents

When you select **Company Documents**, the **Company Documents** page opens. This page is divided into two panes, **Company Documents** log on the left and Properties on the right.

The **Company Documents** log displays:

- Categorized list of available company documents and folders
- Navigational element, as in locator links (or breadcrumbs)
- Toolbar (for details, see below)
- Columns (for details, see below)

Properties (right pane) displays the following tabs:

- **Properties** tab
- **Audit Log** tab
- **Permissions** tab
- **Options** tab

The following explains the **Company Documents** toolbar options:

Create

This option lets you create any of the following:

- **Folder**
When you select this option, the **Create Folder** window opens. This window has the following tabs:
 - **Properties** tab
In this tab, you can provide a name and a description for the new folder. You can also select the owner's name (the read-only **Owner** field) and view the owner's user profile.
Use the **Save** option to save your input.
Use the **Save & Create New** option to save your input and create the folder, which will be added to the categorized list of available company documents and folders (in the **Company Documents** window).
Select **Cancel** to discard your changes and close the window.
 - **Options** tab
In this tab, you can set the folder upload conditions, folder download conditions, and notification preference.
Use the **Save** option to save your input.
Use the **Save & Create New** option to save your input and create the folder, which will be added to the categorized list of available company documents and folders (in the **Company Documents** window).
Select **Cancel** to discard your changes and close the window.
- **Empty Document**
When you select this option, the **Create Document** window opens. This window has the following tabs:
 - **Properties** tab
In this tab, you can provide a name, a description for the requester, and a general description for the new document. In addition, you can enter or select information that

is related to the empty document. That is, you can select an action discipline (for example, Architecture, Construction, Design, Planning, and so on), enter the cost center number, title or tenure, city, and select the acquisition year.

Use the **Save** option to save your input.

Select **Cancel** to discard your changes and close the window.

- **Options** tab

In this tab you can set the document revision option (**Revisions must have same file name**).

Use the **Save** option to save your input.

Select **Cancel** to discard your changes and close the window.

- **Business Process**

When you select this option, the **New Record** (BP record) window opens, which lets you create a BP record. In the **New Record** window, you must select a BP from the **Select Business Process** drop-down field. If the BP record that you select is a workflow BP, the system activates the **Select Workflow** drop-down field, and you must select a type of workflow for the BP record.

When finished, select **Create** to create the record.

Select **Cancel** to discard your changes and close the window.

Actions

The **Actions** option has the following suboptions:

- **Add to Favorites**

Use this option to add a selected file or folder to your favorite list.

- **Move**

Use this option to move the selected file or folder into another folder.

- **Copy**

Use this option to create a copy of the selected file or folder.

- **Delete**

Use this option delete the selected file or folder.

- **Send for E-Signature**

Use this option to send a document to another Unifier user or to an External User for an electronic signature.

- **Recall E-Sign Request**

Use this option to rescind a request for an electronic signature from users who have not responded to the original request.

- **Transfer Ownership**

Use this option to change the owner assigned to the document or folder.

- **Edit**

The **Edit** option lets you perform the following operations on the file or folder:

- **Revise**

When you select this option, the **Upload** window opens which contains a list of files or folders that are available for edit, and provides additional information related to the files or folders that are listed.

If you do not see the file or folder that you want to edit in this window, you can search for that file or folder by selecting *******, selecting **Browse**, and conducting a search.

- **Check In**

Use this option to check in a file or folder. You can only select a checked-out item.

- **Check Out**
Use this option to check out a file or folder. If you select more than one item, the system creates a zip folder that contains all the selected items.
- **Cancel Check Out**
Use this option if you changed your mind about checking out an item. This option lets you avoid checking the checked out item and prevents unnecessary versioning.
- **Lock**
Use this option if you want to lock a document. This option is only for documents.
- **Unlock**
Use this option if you want to unlock the item that was locked.
- **Export**
Use this option to export the **Structure and Properties** of a selected item to a Microsoft Excel (XLSX) file or a comma-separated values (CSV) file.
- **Import**
Use this option to import an existing **Folder Structure Template** from within the system or the **Structure and Properties** of a selected item from a Microsoft Excel (XLSX) file or a CSV file.
- **Permissions**
When you select this option, the **Permissions** window opens, which lets you select one of the following options:
 - **Inherit from parent folder <name of parent folder>**
 - **Assign new permissions**

When you select the items that you want to assign permissions to and you select **Inherit from parent folder <name of parent folder>**, you cannot edit the selected items.

 - **Inherited Permissions**
 - Select **View**, and select users, groups, or both.
 - **Find on page**

When you select the items that you want to assign permissions to and you select **Assign new permissions**, you can start from a blank permission window, or you can copy the existing permissions of the parent folder and use it as a template.

 - **Add**, by way of copying, parent folder permissions to the manual permissions available. In case of conflicts, the parent folder permissions will override.
 - Select from the **User and Group Picker**
 - **View** users, groups, or both
 - **Find on Page**
- **Index Report**
Applicable only to folders. This option lets you generate a report of the files that are in the folder that you have selected, in the following formats:
 - **HTML Format**
 - **PDF Format**
 - **CSV Format**
- **View Import Audit Log**
To view detailed information about the CSV or Microsoft Excel import process that was used to create or update the structure and properties of the selected folder or files, select

this option. The Status information displayed in the log includes an indication of whether the import process failed, completed, or was partially completed.

Flat View

This option displays all documents in the standard structure of all other logs. Selecting a folder opens another log that displays all the files inside the folder. You can navigate back out of the folder using the breadcrumb trail at the top of the log.

Tile View

This option displays all documents as tiles with a preview of the file. Files and folders are grouped together in two separate collapsible sections.

Tree View

This option displays all documents in the standard structure of all other logs, but you can use the plus  and minus  icons next to each folder to expand and collapse folders and display all files contained within.

Download

Use this option to save a copy of selected files to your computer.

Upload

Use this option to add new documents to the Document Manager from your computer.

View

Use this option to filter records based on specific criteria, such **Owned by me** and **Checked out by me**.

You can add and manage your own views with the **Create New View** and **Manage Views** options.

Edit View

Use this option to change the selected view. Use the arrow buttons to move columns between the **Available Columns** list and the **Selected Columns** list. All columns in the Selected Columns list will be visible.

Refresh

Use this option to refresh the log and view any newly uploaded documents.

Favorites

Use this option to view a list of documents with favorite status. You can use the **Find on Page** option to filter for specific documents, or you can use the **Delete** option to remove a document from your favorites list.

Initiate Bluebeam Studio Session

Use this option to start a Bluebeam Studio Session on a selected PDF file.

Search

Use this option to search for specific items by entering key words in the search box. Use the drop-down menu to select which column should contain the key word.

Find on Page

Use this option to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

Expand All or Collapse All

This will open or close all folders, displaying all the files contained in each folder. This option is available only when the **Tree View** option is selected.

The following explains the properties (right pane) elements:

Properties tab

Use this tab to edit the properties of selected files or folders. You can only edit files and folders for which you are the owner.

Linked Records tab

After you begin the process of creating a line item, you can link the line item to a business process record in the Linked Records tab. This tab is only available after you save the record. Use this tab to see information such as the **Record Number** and **Status**.

Audit Log tab

Use this tab to view all changes to the selected document. You can use the **Print** option to print the Audit Log, or you can use the **Find on Page** option to find a specific entry by filtering column information.

Permissions tab

Use this tab to view what permissions are available for selected users or groups.

Options tab

Use this tab to configure the **Folder Upload** and **Folder Download** options available for the selected folder. If you are working with a file, under the **Document Revisions** block, select the **Revisions must have same file name** option if you want revised documents to keep the same file name.

Unpublished Documents

For details, see [Unpublished Documents](#).

Navigating to Project/Shell Documents in Document Manager

The following functional nodes appear under the **Document Manager** grouping node, in your project/shell:

- **Documents**
- **Unpublished Documents**

Documents

When you select the **Documents** functional node, the **Documents** page opens. This page is divided into two panes, **Documents** log on the left and Properties on the right.

The **Documents** log displays:

- Categorized list of available project/shell documents and folders

- Navigational element, as in locator links (or breadcrumbs)
- Toolbar (for details, see below)
- Columns (for details, see below)

Properties displays the following tabs:

- **Properties**
- **Audit Log**
- **Permissions**
- **Options**

The following explains the project/shell documents (left pane) toolbar options:

Create

This option lets you create any of the following:

- **Folder**

When you select this option, the **Create Folder** window opens. This window has the following tabs:

- **Properties** tab

In this tab you can provide a name and a description for the new folder, and you can select a category and phase. You can also select the owner's name (the read-only **Owner** field) and view the owner's user profile.

Use the **Save** option to save your input.

Use the **Save & Create New** option to save your input and create the folder, which will be added to the categorized list of available project/shell documents and folders (in the **Documents** window).

Select **Cancel** to discard your changes and close the window.

- **Options** tab

In this tab you can set the folder upload conditions, folder download conditions, and notification preference.

Use the **Save** option to save your input.

Use the **Save & Create New** option to save your input and create the folder, which will be added to the categorized list of available project/shell documents and folders (in the **Documents** window).

Select **Cancel** to discard your changes and close the window.

- **Empty Document**

When you select this option, the **Create Document** window opens. This window has the following tabs:

- **Properties** tab

In this tab, you can provide a name, a description for the requester, and a general description for the document that you have created. In addition, you can enter or select information that is related to the empty document that you are creating. That is, you can select an action discipline (for example, Architecture, Construction, Design, Planning, and so on), enter the cost center number, title or tenure, city, and select the acquisition year.

Use the **Save** option to save your input.

Select **Cancel** to discard your changes and close the **Create Folder** window.

- **Options** tab
In this tab, you can set the document revision option (**Revisions must have same file name**).

Use the **Save** option to save your input.

Select **Cancel** to discard your changes and close the window.

- **Business Process**

When you select this option, the **New Record** (BP record) window opens, which lets you create a BP record. In the **New Record** window, you must select a BP from the **Select Business Process** drop-down field. If the BP record that you select is a workflow BP, the system activates the **Select Workflow** drop-down field, and you must select a type of workflow for the BP record.

When finished, select **Create** to create the record.

Select **Cancel** to discard your changes and close the window.

Actions

The **Actions** option has the following suboptions:

- **Add to Favorites**
Use this option to add a selected file or folder to your favorite list.
- **Move**
Use this option to move the selected file or folder into another folder.
- **Copy**
Use this option to create a copy of the selected file or folder.
- **Delete**
Use this option delete the selected file or folder.
- **Send for E-Signature**
Use this option to send a document to another Unifier user or to an External User for an electronic signature.
- **Recall E-Sign Request**
Use this option to rescind a request for an electronic signature from users who have not responded to the original request.
- **Transfer Ownership**
Use this option to change the owner assigned to the document or folder.
- **Edit**

The **Edit** option lets you perform the following operations on the selected file:

- **Revise**

When you select this option, the **Upload** window opens, which contains a list of files or folders that are available for edit, and provides the following details related to the files or folders that are listed, under the following columns:

- * **File Name**
- * **Revise File Name**
- * **File Size**
- * **Document Title**
- * **Revision No**
- * **Issue Date**

If you do not see the file that you want to edit in this window, you can search for it by selecting *******, selecting **Browse**, and conducting a search.

- **Check In**
Use this option to check in a file or folder. You can only select a checked-out item.
- **Check Out**
Use this option to check out a file or folder. If you select more than one item, the system creates a zip folder that contains all the selected items.
- **Cancel Check Out**
Use this option if you changed your mind about checking out an item. This option lets you avoid checking the checked out item and prevents unnecessary versioning.
- **Lock**
Use this option if you want to lock a document. This option is only for documents.
- **Unlock**
Use this option if you want to unlock the item that was locked.
- **Export**
Use this option to export the Structure and Properties of a selected item to a Microsoft Excel (XLSX) file or a comma-separated values (CSV) file.
- **Import**
Use this option to import an existing **Folder Structure Template** from within the system or the **Structure and Properties** of a selected item from a Microsoft Excel (XLSX) file or a CSV file.
- **Permissions**
When you select this option, the **Permissions** window opens which lets you:
 - Select one of the following options:
 - * **Inherit from parent folder <name of parent folder>**
 - * **Assign new permissions**
 - When you select the items that you want to assign permissions to and you select the **Inherit from parent folder <name of parent folder>** option, you cannot edit the selected items.
 - * **Inherited Permissions**
 - * Select **View**, and select users, groups, or both.
 - * **Find on page**
 - When you select the items that you want to assign permissions to and you select **Assign new permissions**, you can start from a blank permission window, or you can copy the existing permissions of the parent folder and use it as a template.
 - * **Add**, by way of copying, parent folder permissions to the manual permissions available. In case of conflicts, the parent folder permissions will override.
 - * Select from the **User and Group Picker**
 - * **View** users, groups, or both
 - * **Find on Page**
- **Index Report**
Applicable only to folders. The Index Report option lets you generate a report of the files that are in the folder that you have selected, in following formats:
 - **HTML Format**

- **PDF Format**
- **CSV Format**
- **View Import Audit Log**
To view detailed information about the CSV or Microsoft Excel import process that was used to create or update the structure and properties of the selected folder or files, select this option. The Status information displayed in the log includes an indication of whether the import process failed, completed, or was partially completed.

Flat View

This option will display all documents in the standard structure of all other logs. Selecting a folder will open another log that displays all the files inside the folder. You can navigate back out of the folder using the breadcrumb trail at the top of the log.

Tile View

This option will display all documents as tiles with a preview of the file. Files and folders are grouped together in two separate collapsible sections.

Tree View

This option will display all documents in the standard structure of all other logs, but you will be able to expand and collapse folders to display all files contained inside the folder. Use the plus  and minus  icons next to each folder to expand or collapse the folder.

Download

Use this option to save a copy of selected files to your computer.

Upload

Use this option to add new documents to the Document Manager from your computer.

View

Use this option to filter records based on specific criteria, such as **Owned by me** and **Checked out by me**.

You can add and manage your own views with the **Create New View** and **Manage Views** options.

Edit View

Use this option to change the selected view. Use the arrow buttons to move columns between the **Available Columns** list and the **Selected Columns** list. All columns in the Selected Columns list will be visible.

Refresh

Use this option to refresh the log and view any newly uploaded documents.

Favorites

Use this option to view a list of documents with favorite status. You can use the **Find on Page** option to filter for specific documents, or you can use the **Delete** option to remove a document from your favorites list.

Initiate Bluebeam Studio Session

Use this option to start a Bluebeam Studio Session on a selected PDF file.

Search

Use this option to search for specific items by entering key words in the search box. Use the drop-down menu to select which column should contain the key word.

Find on Page

Use this option to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

Expand All/Collapse All

This will open or close all folders, displaying all the files contained in each folder. This option is available only when the **Tree View** option is selected.

The following explains the properties (right pane) elements:

Properties tab

Use this tab to edit the properties of selected files or folders. You can only edit files and folders for which you are the owner.

Audit Log tab

Use this tab to view all changes to the selected document. You can use the **Print** option to print the Audit Log, or you can use the **Find on Page** option to find a specific entry by filtering column information.

Permissions tab

Use this tab to view what permissions are available for selected users or groups.

Options tab

Use this tab to configure the **Folder Upload** and **Folder Download** options available for the selected folder. If you are working with a file, under the **Document Revisions** block, select the **Revisions must have same file name** option if you want revised documents to keep the same file name.

Unpublished Documents

For details, see [Unpublished Documents](#).

Display Folders by Project or Shell Phase

The following is only applicable to the project/shell **Document Manager**.

A project/shell document folder can be associated with one or more project/shell phases. This will make the document folder accessible only during specific phases of a project/shell and helps ensure that important phase-specific documents are visible at the appropriate times, during the life cycle of the project/shell.

Example

If a folder or subfolder is associated with the construction phase of a project/shell, the folder or subfolder will appear in the project/shell documents folder view (project/shell **Documents** log) for that project/shell only when the project/shell is in that phase.

If a phase has not been designated on a folder or subfolder, the folder or subfolder will display for all project/shell phases.

The folder phase is designated in the **Phase** selection box in the folder **Properties** window. The project/shell phase is maintained in the project/shell **Properties** window, by a project/shell administrator.

You have the option to either view folders for the current project/shell phase, or you can choose to view all folders regardless of project/shell phase.

To display folders by current phase:

1. Access the project/shell **Document Manager** grouping node, and select the **Documents** functional node.
2. From the toolbar, select **View**, and select **Current Phase**.
The folders and subfolders that have been associated with the current phase of your project/shell, as well as the folders and subfolders that have no specific phase designation, will be displayed.

The folders and subfolders that have been associated with a different project/shell phase will not display.

To display folders for all project/shell phases, select the **View** drop-down menu and select **All**. This will display all folders, regardless of project/shell phase.

Working with Document Manager in Company and Project or Shell

Navigating to **Document Manager** at the company level:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, expand the **Document Manager** node.

Navigating to **Document Manager** at the project/shell level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, expand the **Document Manager** node.

In general, the following nodes appear under the **Document Manager** node at the company or project/shell levels:

- **Documents** (or **Company Documents**)
- **Recycle Bin**
- **Unpublished Documents**

The project/shell **Documents** log and **Company Documents** log display attributes about the documents and folders listed in them.

Project/Shell Documents

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log.

Company Documents

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Company Documents** to open the **Company Documents** log.

The log can be designed in uDesigner if the folder and document properties have been designed.

 Note

- The log used in your **Document Manager** may vary.
- You may need to use the horizontal scroll bar to view all the columns.

The following shows the default display of the project/shell **Documents** log and **Company Documents** log.

Documents log or Company Documents log

The **Documents** log or the **Company Documents** log is divided into two left and right panes. The following explains each pane.

The **Documents** log or the **Company Documents** log left pane has the following toolbar options:

Toolbar	Description
Create	Enables you to create: • Folder • Empty Document • Business Process  Note The options above are available if you select All for the View toolbar option.

Toolbar	Description
Actions	Lets you conduct the following actions on multiple files or folders: Add to Favorites Move Copy Delete Send for E-Signature Recall E-sign Request Transfer Ownership Edit • Revise • Check In • Check Out • Cancel Check Out • Lock • Unlock Export • Structure and Properties (CSV) • Structure and Properties (Excel) Import • Folder Structure Template • Structure and Properties (CSV) • Structure and Properties (Excel) Permissions Index Report • HTML Format • PDF Format • CSV Format View Import Audit Log
Flat View 	Lets you see a flat list (default view) of all files and folders, located in the root (Project Documents) folder. To browse a folder in this view, double-click the folder name. This opens the contents of that folder in the log. When you select a file or folder, the relevant tabs open on the right pane, which let you define the file or folder properties, permissions, and so on.
Tile View 	To change the views between list, tile, and tree views.
Tree View 	To change the view of folders and documents. You can open any number of folders in the hierarchy and view their contents in the same view.
Download	To download documents or folders onto your local or network drive.

Toolbar	Description
Upload	To upload files from your local system into the project/shell or company-level Document Manager.
View	To customize the Documents log to display files based on your filter criteria. See Working with DM Log Views . • All • Owned by me • Checked out by me • Locked • Uploaded in last 7 days • Uploaded in last 30 days • Current Phase • Create New View • Manage Views
Edit View 	To change the log view (columns, filters, sort, and so on).
Refresh 	To refresh the items on the log.
Favorites 	To view the favorites list.
Initiate Bluebeam Studio Session 	To initiate a Bluebeam Studio Session. For details about Bluebeam, refer to the <i>Unifier Bluebeam User Guide</i> .
Search 	To open the search window and search for a specific document. See Searching Content .
Find on Page 	To find an item on the page or log. See Finding on Page .

Next to each item on the log (next to a folder, subfolder, document, shortcut, or empty document), there is a *gear menu* () . The *gear menu* for each document is explained below:

 Note

The following menu options change for empty documents.

Option	Description
Open	To open a file in the default File Viewer.
Open in AutoVue	To open the file in AutoVue.
Download	To download a file.
Add to Favorites	To add the item to the list of favorites.
Create	To create a file based on a business process.
Actions	Lets you perform the following on a file: • Revise • Check Out • Check In • Cancel Check out • Lock • Unlock
Transfer Ownership	To transfer the ownership of the file.
Move	To open the Move window and move the file to the destination folder.

Option	Description
Copy	To open the Copy window and copy the file to the destination folder and include comments.
Delete	To delete the row or item.

The *gear menu* () for each folder is:

Option	Description
Create	To create a folder.
Upload	To upload folder.
Download	To download folder.
Add to Favorites	To add the folder to the favorites list.
Move	To open the Move window and move the folder.
Copy	To open the Copy window and copy the file to the destination folder and include comments.
Delete	To delete the row or item.

The *gear menu* () for each PDF is:

Option	Description
Self-sign	To sign the PDF.
Send for E-Signature	To send for E-signature.
Initiate Bluebeam Studio Session	To initiate a Bluebeam Studio Session. For details about Bluebeam, refer to the <i>Unifier Bluebeam User Guide</i> .

The **Documents** or **Company Documents** left pane has the following columns:

Column	Description
Name	The name of the document or folder.
Comments	Comments associated with a file.
Envelope Code	If you are using envelopes in DocuSign or Acrobat Sign and a document or group of documents was submitted for an e-signature request, this column displays the code assigned to the envelope that contains the applicable documents. If an envelope is resubmitted for signatures, the code is overwritten with a new code.
Lock	Indicates whether the file is locked or not.
Bluebeam Session Status	Indicates the status of the document in the Bluebeam studio session.
References	Any references included in the file.
Linked Records (BP)	Any linked records included in the file.
Title	The file title.
Creation Date	Creation date.
Issue Date	Date that the file was issued.
Owner	The owner of the file.
Revision No.	If the file has been revised, the revision number appears here.
Pub No.	Publication number.

Column	Description
% Complete	The status of a file.
Size	The size of the file.
Upload By	The name of the user who has uploaded the file.
Upload Date	The date that the file was uploaded.
Location	The location of the file.
Discipline	The selected discipline.
Document Status	Current state of the document.

The **Documents** or **Company Documents** right pane has the following tabs:

Tab	Description
Properties	Displays detailed information about a selected item on the log (left pane).
Linked Records	This tab only applies to Documents. Displays the information about records that are linked to the file.
Audit Log	Displays the actions that have been taken on an item, with details. You can print the audits or search for a particular audit.
Permissions	Displays the name of the users or groups that are permitted to work on the selected item, and the permission type.
Options	Displays the type of options available for each item selected.

Recycle Bin

Lists all files that have been deleted along with details about each deleted file. You can use the following toolbar options to restore deleted files, search among deleted files, or permanently delete the deleted files:

- **Restore**
- **Restore All**
- **Delete**
- **Empty Recycle Bin**
- **Find on Page**

Unpublished Documents

Lists all unpublished documents and provides details on each one. You have the option to publish or download documents on the **Unpublished Documents** log. The *gear menu* (⚙️) for each file lets you conduct the following operations on a selected file.

- **Open**
- **Open in AutoVue**
- **Publish**
- **Download**

The **Unpublished Documents** node log is divided into two panes. The left pane provides a list of unpublished documents, and the right pane provides details on each document in the following tabs:

- **Properties**
- **Linked Record**

Working with DM Log Views

Use the **View** drop-down list to customize the Document Manager log to display files based on your filter criteria. You can use the following pre-defined views or create your own view:

- **All**
- **Owned by me**
- **Checked out by me**
- **Locked**
- **Uploaded in last 7 days**
- **Uploaded in last 30 days**
- **Create New View**
- **Manage Views**

If the option **DM View** is available, it lets you see the views defined in Log views, in Document configuration, at runtime. In such a scenario, you can only see the active views at runtime, and you can see all active views pertaining to the **Documents** log, if you have permission to access to the DM log.

You cannot modify the view names "All" and "Current Phase" of the **View** option.

To create a view:

1. Go to your **Documents** log.
2. Select **View**, and select **Create New View** to open the **New View** page.
3. On the **New View** page, enter a name for your new view under the field **Save View As**.
4. In the **Columns** tab, select columns that you want to display.
5. Select the columns that you want to remain static on the page from: **Lock after selected Column** drop-down list.
In addition to arranging the columns, you can go to the **Filters**, **Group By**, and **Sort By** tabs to customize the new view by applying more refined selections.
6. Select **Save** to create your new view.

Your new view appears in the **View** list.

Note

Avoid defining a view with no columns selected.

To manage your views:

1. Go to your **Documents** log.

2. Select **View**, and select **Manage Views** to open the **Manage Views** window. Use the **Manage Views** to create, delete, or hide views within any log. In addition, you can reorder views by dragging and dropping them in the **Manage Views** window.

3. When finished, select **Apply**.

Your arrangement appears in the View drop-down list.

To edit or delete an existing view:

1. Go to your **Documents** log.
2. Select **Edit View** ()

Note

If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name.

3. Edit the view of the following elements on your log:
 - Columns
 - Filters
 - Group By
 - Sort By
4. Select **Apply** when you have finished editing.

Using the DM Log Tile View

The Tile view lets you view files and folders as thumbnails. All folders and files are grouped separately, you can expand and collapse each group. The Tile view only show the immediate children of the folder.

When a file is selected, the right pane displays all the information tabs. The *gear menu* () lets you act on an individual file or folder. The folder and file names are hyperlinks, you can select the hyperlink to open a folder or file.

To use the tile view, from the Document Manager log, select  **Tile View**. To switch to list view, select  **List View**.

Searching Content

When a search is initiated by typing text in the search box, the system displays suggested areas to search in. Some of these suggested areas are system-defined (such as: Content or Linked Records) and others can be defined by the user in the Document Manager attribute form Log, in uDesigner. The user can configure to search on any attribute of a document including text, drop-down, numeric, or date type attributes.

Note

The default elements and fields (log layout, view, search, and so on) that are defined in the Standard Log, in uDesigner, determine the Standard user interface elements and fields of all logs.

After selecting the areas you want to search in, the system displays a filtered list based on your search criteria. In addition, you can also use the quick filters to further refine your search criteria.

From within the search result screen, you can choose to open, download, create a business process record, or go to the folder by selecting the options under the *gear menu* (⚙️). The following menu and toolbar options are displayed on the Search pages.

Menu and Toolbar Options	Description
Create	Lets you create a business process. Select a business process and workflow, and select Create .
Download	To download a file.
 Tile View  List View	To view the search results in Tile View or List View.
 Find on Page	Lets you find a file on the page.
	Select one of the following options: Open , Open In AutoVue , Download , Create and then select Business Process , or Go to Folder .

To search the document log:

1. Select **Search** .
2. Enter one or more keywords.
3. Select the areas you want to search in, for example Content, Linked Records, and so on.
4. Select **Search**. The search results are displayed.
5. From the quick filters displayed on the left pane, select filters to further narrow your search.
6. To change the area you want to search in, or to include multiple search areas, select **Change**.
7. Select  **Add New Condition** to add additional search areas. Use  **Delete** to remove search areas.
8. Select if you want the search results to display only if it matches all or any of the search criteria by selecting **Match All** or **Match Any**.
9. Select **Search**. The search results are displayed.

Note

The search bar is not case-sensitive. Accented characters and wild card searches are not supported.

Finding on Page

The **Find on Page**  option lets you find items on the displayed page.

1. Select **Find on Page**. The system inserts a new row that lets you enter your search parameters.
2. Enter your search parameters.

The system displays a list of files, folders, subfolders, or shortcuts that match the criteria you entered.

If you decide to cancel the find for one of the cells, you must remove the parameters that you have entered. If you decide to cancel the find for an entire row, you must select **Find on Page** .

Sorting Columns

You can sort columns in the [Document Manager \(DM\) Log](#) and the Search Results page. The **View** menu is prefixed with the word *Modified* if the sort is applied to the columns.

To sort columns, select the up and down arrows next to the column name.

Creating and Managing Folders

If you have proper permissions, you can create any number of folders and subfolders to organize documents and shortcuts. Folders can be created in various ways:

- Manually create a folder.
- Upload folders from your local machine.
- Import folders from a CSV file.
- Create folders in a project/shell template (Admin mode). When a new project/shell is created from the template, the folder structure will be copied.
- Import a folder structure from a folder structure template.

Note

You must have permission to create or modify folders to perform the following procedures.

View Folder Contents

To view folder contents:

In the folders view, select a folder. The contents of the folder appear in the project/shell or Company Documents log. If a folder has a plus sign (+), select it to reveal subfolders.

About Locked Folder Structures

The document administrator (the project/shell or company administrator or other designated user with full administrative permissions) has the ability to lock the first-level folder structure. First level refers to folders and documents directly under the root folder. It does not refer to the sub-folders within the first-level folders.

Locking the first level folder structure prevents other users from adding, modifying, or deleting folders and documents on the first level, or changing the document or folder properties. Users can modify permissions on first-level folders and documents.

This ability allows the administrator to establish and maintain a consistent main folder structure within and across project/shells.

Locked Folder Structure

To check if the first-level folder structure is locked:

1. Open the Document Manager.
2. In the left Navigator, select **Documents** or **Company Documents**.
3. Select the first level folder in the Document Manager log.
4. From the right pane, select the **Options** tab. If the **Lock first level folder structure below Project Documents or shell Documents** checkbox is selected, the first-level folder structure is locked.

Create a Folder

You can create a folder at the root level of the project/shell or Company Documents nodes, or within any existing folder. You can also create several folders within the same parent folder.

When you create a folder, you become its owner by default and have full read, write, and edit privileges. For other users to access the folder and its contents, you must grant permission. It is recommended that you understand the permissions settings before creating folders.

You can create multiple folders within the same parent folder, and these folders can share similar properties.

Folder names *cannot* include the following special characters: / \ : * ? " < > |

Note

First-level folders might be locked by a document administrator. This restriction prevents changes or additions to folders directly under the project/shell or Company Documents nodes, preserving the main folder structure. However, subfolders can still be created within existing folders.

To create a folder:

1. Select the folder in which you want to create another folder, or select the project/shell or Company Documents root node.
2. From the toolbar, select **Create**, and then select **Folder**.
The **Create Folder** window opens. This window is identical to the Folder Properties window, which can be viewed for existing folders.
3. In the **Properties** tab, enter values in the editable fields.
The other fields are system-defined or optional.

4. Select the **Options** tab, and select the applicable options.
5. Choose one of the following:
 - To create a single folder, select **Save**. The folder is created, and the **Create Folder** window closes.
 - To create another folder in the same parent folder, select **Save & Create New**. Repeat steps 3 through 5.
 - To cancel the creation of a folder, select **Cancel**.

Folder Properties Window

To open the **Folder Properties** window:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. Select a folder.

When you select a folder, the right pane displays the following tabs:

- **Properties**
- **Audit Log**
- **Permissions**
- **Options**

If a data element in the right pane contains a tooltip (a description of the field), a question mark (?) symbol appears next to that field. When you hover over the question mark, the tooltip appears.

Folder Properties Window (Properties Tab)

The **Properties** tab has several fields that are categorized under the following blocks:

- **General**
- **Other**

General

In this field	Do this
Name	This always appears at the top and is required. For the project/shell Documents or Company Documents root folder, this is not editable.
Location	The folder location within the project/shell Documents node. "/" indicates the project/shell Documents root folder.
Owner	The name of the folder creator or current owner. Select to view the user profile.
Creation Date	The date that the folder was created.
% Complete	This is a calculated field derived from the overall percent complete of all documents within the folder. The % Complete for documents is maintained manually in the Document Properties window.
Description	You can enter an optional description for the folder.

Other

In this field	Do this
Categories (applicable to project-level Document Manager only)	Project administrators can group folders into customized categories. You cannot use Find to search for Category designations, but you can include them in a report (user-defined reports). This field is not present at the company level.
Phases (applicable to project/shell level Document Manager only)	In the project/shell level Document Manager, a folder can be associated with one or more project/shell phases, making it accessible only during those phases of the project/shell. This helps ensure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project/shell. Click Select and select one or more phases. The Phase setting controls the visibility of folders. For example, if the project/shell administrator sets the project/shell phase to conceptual design, only those folders tagged with the phase conceptual design, as well as those without a phase tag, will be visible during that phase. If you do not specify a phase, the folder will display during all project/shell phases.

Folder Properties Window (Permissions Tab)

The **Permissions** tab has several fields that are categorized under the following blocks:

- **Inherit permissions from the parent folder**

This option is not available for folders or files that do not have a parent folder (that is, are located at the root).

This option has the following are the two blocks:

- **User Name or Group Name**

A selection section on the left. You can enter in the field (picker). Alternatively, you can select an option to open a user or group picker, select one or more users or groups, and add your selections. When you select users or groups, an expanded list of selected users or groups appears.

If there are both users and groups, the first group is displayed as selected by default. The permissions are in the right section.

If there are no groups, but users only, the first user is displayed as selected by default. The permissions are in the right section.

You can delete any of the existing or saved permissions.

Usernames shows the user's profile picture next to the user name. Also, the user Title (from user's Unifier profile) is displayed below the user name.

- **Document Permissions**

A definition section on the right. This section displays a list of all folder or file permissions. If the option "Inherit permissions from the parent folder" is selected, this section will become read-only. You can edit the contents of this section only when the option "Inherit permissions from the parent folder" does not exist (for root level files or folders), or if the option "Inherit permissions from the parent folder" is selected.

When you select multiple files (from the Documents log in the Document Manager), the right pane displays the following tabs:

Revisions tab: The Revisions tab is not available if more than one file has been selected in the DM. This tab is displayed only if the document has revisions.

Permissions tab

Options tab: Revisions must have same file name

Audit Log tab: Print, Export To CSV, and Export to Excel.

- **Selected Users/Groups**
- **Folder Permissions**
- **Document Permissions**
- **Apply these permissions to documents and sub-folders**

Folder Properties Window (Audit Log Tab)

The **Audit Log** tab has a tabular log that displays the following information:

- **Date**
- **Event**
- **Action**
- **Field Name**
- **Old Value**
- **New Value**
- **User Name**
- **Proxy User**

Folder Properties Window (Options Tab)

The **Options** tab has several fields that are categorized under the following blocks:

- **Folder Upload**
 - **Upload files only:** Default selection; when a folder is selected for upload, only the files within it are uploaded, not the folder itself.
 - **Upload folders and files:** Allows uploading of both files and folders.
 - **Apply these options to all sub-folders:** If you select this option for the current folder, all new and existing subfolders and documents within the folder will be modified when the window is saved.
- **Folder Download**
 - **Download files only:** Default selection; when a folder is selected for download, only the files within it are downloaded, not the folder itself.
 - **Download folders and files:** Allows downloading of both files and folders.
 - **Apply these options to all sub-folders:** If you select this option for the current folder, all new and existing subfolders and documents within the folder will be modified when the window is saved.
- **Send email notification to subscribed users:** Select this box if you want the owner to receive an email notification whenever the folder properties are modified. If you select or deselect this box on a folder, the checkbox will update on all subfolders automatically. This

option will not override users' email subscription selections in user preferences. Users also have to have at least view permissions on the specific folder or document to get the notification.

Lock folder structure for the first level below project or shell Documents: This option appears only for the root project/shell Documents folder. It disallows the addition, modification, or deletion of any first-level folder: folders that are directly under the project/shell Documents node. Subfolders can still be added to the first-level folders. The administrator can unlock the structure to change first-level folders if necessary.

View or Modify Folder Properties

You can view or modify (with proper permissions) the folder properties of existing folders. When you create or upload a folder, you become its owner and have full access to the folder and its contents.

To view folder properties:

1. From the project/shell or Company Document log, select any folder or subfolder, or the project/shell or Company Documents root folder.
2. From the right pane, select the **Properties** tab.
The folder properties are displayed in the right pane.

To modify folder properties:

1. From the project/shell or Company Document log, select any folder or subfolder, or the project/shell or Company Documents root folder.
2. From the right pane, select the **Properties** tab.
3. Make your changes and select **OK**.

View or Modify Folder Options

To view folder options:

1. From the project/shell or Company Document log, select any folder or subfolder, or the project/shell or Company Documents root folder.
2. From the right pane, select the **Options** tab.
The folder options are displayed in the right pane.

To modify folder options:

1. From the project/shell or Company Document log, select any folder or subfolder, or the project/shell or Company Documents root folder.
2. From the right pane, select the **Options** tab.
3. Make your changes and select **Save**.

View, Add, or Modify Folder Permissions

When you create or upload a folder, you become its owner and have full access to the folder and its contents.

Setting permissions at the folder level lets you grant other users access not only to the selected folder, but also (optionally) its contents as well, such as subfolders, shortcuts, and documents. You also have the option of setting individual permission settings to specific

shortcuts and documents within the folder, as discussed in the documents and shortcuts sections.

Note

- You may want to add yourself to the permissions list. Though not necessary, if you remain the owner and you decide later to transfer ownership of the folder, you will no longer have owner permissions. However, you will retain the permissions, if any, that you specify in the permission window.
- The project/shell Documents root folder is selectable for modifying permissions.

To view the folder permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (folder) from the log.
4. On the right pane, select the **Permissions** tab to view the folder permissions.

To add or modify the folder permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (folder) from the log. You can select more than one item.
4. From the toolbar, select **Actions**, and select **Permissions** to open the **Permissions** overlay page. Alternatively, if you are working with one item (folder) only, you can select the *gear menu* (⚙) next to the item and select **Permissions**.
5. On the **Permissions** overlay page, you can add or modify the folder permissions by using the following options:

- **Inherit form parent folder <parent folder name>**
If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.
- **Assign new permissions**
- **Apply these permissions to documents and sub-folders**
You can select this option to apply the selected permissions to all the documents and folder contained within the selected items (folders). This selection erases the existing permissions assigned to the selected items (folders).

6. Select **Save** when done, or select **Cancel** to close the **Permissions** overlay page without any changes.
When you are working with more than one item (folder), there is an additional option: **Save and Close**.

When you are working with permission of one item (folder) only, there are additional options: **Previous** and **Next**. These additional options let you finish your work and navigate to permissions of the previous or the next item.

7. Do any of the following:

- To add a new user, select **Add** and add users or groups to grant permission. Select the user from the list and grant or remove individual permissions (see below).
- To remove a user's permissions, select the user from the list, and select **Remove**.
- To modify a user's permissions, select the user from the list and grant or remove individual permissions.

Add or Modify Multiple Folder Permissions

To add permissions to multiple folders:

Note

This option does not let you use the existing permissions for the selected folders. For example, if a user 'A' already has permission to one of the selected folders, and if the same user is selected again from the user group picker, then user A's existing permissions will get overwritten with the new permissions.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. In the **Documents** log (for **Project Documents**), select multiple folders.
4. From the toolbar, select **Actions**, and then select **Permissions**.
5. In the **Permissions** window, assign permissions to users or groups.
By default, permissions are inherited from the common parent folder of all the chosen files. The inherited permissions will all be read-only. You have the option to assign new permissions instead of choosing to inherit from parent folder.

The permissions of folder owners can never be removed. If you select multiple folders, add the folder owners from the users- or group-picker, and select **Remove**, the system removes the folder owners from the current permission window. The system does not remove permissions for the folder owner.

If you switch between the **Inherit form parent folder <parent folder name>** and **Assign new permissions** options, all the inherited permissions are removed and the **Permissions** page toolbar and grid is updated as if you are proceeding to create permissions from scratch.

If you have already inserted one or more rows in the grid (manually or by copying from parent) and you decide to switch between the **Assign new permissions** and **Inherit form parent folder <parent folder name>** options, the system displays a message stating that the manually added permissions will be erased and replaced with the inherited permissions. You will have the option to proceed or cancel.
6. When you are done, select **Save**.

Copy a Folder

You can copy a folder from one location to another. When you copy a folder, you become the owner with ownership permissions of the copied folder and its contents. The owner of the original folder and other users with permissions to the original folder retain their permissions on the original and the copied folder. You can copy more than one folder at a time.

Note

If a folder contains attachments, you can copy the folder with the attachments.

To copy a folder:

1. Select a folder in the project/shell Documents log.
2. Select , select **Edit**, and then select **Copy**.
3. Select the target location from the folders shown.
4. Select the **Include Comments** checkbox if you want to copy any comments or markups that may be on documents within the copied folder.
5. Select **Copy**. The folder and all contents (subfolders, documents, shortcuts) are copied to the target location.

Note

To copy multiple folders, select the folders, go to the toolbar, select **Actions**, select **Edit**, and then select **Copy**.

Move a Folder

If you are the owner of the folder (or otherwise have proper permissions), you can move a folder to a new location. When you move a folder from one location to another, all subfolders, documents, and any comments or markups on the documents are moved to the new location. Original ownership and user permissions are maintained. To move a folder, you must have the following permissions: *Create Sub-Folder* permission in the destination folder and *Move* permission in the source folder. If a folder with the same name exists in the destination folder, you can choose to either cancel the move or keep both the folders. When you select the option to keep both, the folder you are moving will be appended with a number to distinguish it from the folder that exists. If you are moving multiple folders at the same time, you can select the **Apply for all conflicts** checkbox to apply the same action for subsequent conflicts.

To move a folder:

1. Select a folder in the project/shell Documents log.
2. Select , select **Edit**, and then select **Move**.
3. Select the target location from the folders shown.
4. Select **Move**. The folder and its contents are moved to the target location.

Note

To move multiple folders, select the folders, go to the toolbar, select **Actions**, select **Edit**, and then select **Move**.

Rename a Folder

To rename a folder:

1. Select the folder in the project/shell Documents log.
2. Select , select **Edit**, and then select **Properties**.
3. Enter the new folder name, and select **OK**.

Delete a Folder

When you delete a folder, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored back to their original location or permanently deleted. See [The Recycle Bin](#). You can delete more than one folder at a time.

Note

Documents attached to business processes cannot be deleted. Therefore, to delete a folder that contains a document that cannot be deleted, you must first move that document to a different location.

To delete a folder:

1. Select a folder in the project/shell Documents log.
2. Select , select **Edit**, and then select **Delete**.
3. Select **Yes** to confirm. The folder is moved to the Recycle Bin.

Note

To delete multiple folders, select the folders, go to the toolbar, select **Actions**, select **Edit**, and then select **Delete**.

Creating and Managing Documents

A document refers to a file that is uploaded into the system and stored in the Document Manager. A document in the Document Manager can be thought of as a container of the file that was uploaded.

View and Open Documents

Documents can be stored in folders or directly in the root project/shell documents or company documents node. The project/shell documents log displays the contents of the selected folder, including subfolders, documents, and shortcuts.

Note

If you are using an Oracle Cloud-based deployment, the system displays a message when you choose to view or download files or attachments that have not been scanned for viruses. To continue, you must select **Yes** or **No**. If you select **Yes** and the system determines that the file is infected, the download is stopped; otherwise, the download completes successfully.

Documents can be opened in several ways from within the system, depending on your default viewer selection and integrations enabled by your Company Administrator:

- **Native:** Documents are opened in their native software applications; for example, Microsoft Word documents are opened in Microsoft Word. This option requires that users have the native software application installed on their machine or your Company Administrator enabled Office 365 integration for use with Microsoft 365 applications.
- **Unifier Viewer:** Documents are displayed in the Unifier Viewer. Documents are opened in a read-only view that supports adding graphical markups and text comments. Unifier Viewer supports the document file types listed in the table below.
- **Office for the web:** If Office 365 integration is enabled, you can also use Microsoft 365 to view and update documents, including working on attachments for BPs.
- **AutoVue:** If your Unifier server is configured to use it, you also have the option of opening a document in AutoVue.

Supported File Types with Unifier Viewer

File Type	File Type	File Type	File Type	File Type	File Type	File Type
BMP	DOTX	JFIF	ODT	PPSX	TXT	XLT
CSV	DWF	JP2	PDF	PPT	VSD	XLTM
DGN	DWG	JPC	PNG	PPTM	VSDX	XLTX
DOC	DXF	JPEG	POT	PPTX	WMF	
DOCM	EMF	JPG	POTM	PUB	XLS	
DOCX	EML	MSG	POTX	RTF	XLSB	
DOT	GIF	ODP	PPS	SVG	XLSM	
DOTM	HTML	ODS	PPSM	TIF	XLSX	

Microsoft Cloud Storage Partner Program (CSPP) File Size Guidelines (Microsoft 365)

Application	Mode	CSPP Limit	CSPP+ Limit	Notes
Word for the web	View			No limit, but there is a 60-second file download time out that applies to all GetFile operations, and this time out can affect the perceived file size limit. In practice, this time out is rarely reached, because connectivity and bandwidth is typically very good between Office for the web and host data centers. However, hosts should be aware of this limit.
Word for the web	Edit	100 MB	100 MB	
Excel for the web	View	25 MB	100 MB	
Excel for the web	Edit	25 MB	100 MB	
PowerPoint for the web	View			No limit, but subject to the 60-second time out for file downloads as described above.
PowerPoint for the web	Edit	300 MB	2 GB	Subject to the 60-second time out for file downloads described above so it is possible that smaller files will reach that timeout. In addition, for embedded media, the size limit is 100MB for most embedded media types. For WAV files the limit is 100KB.

The **Viewer Option** is set in the **Preferences** section of the **More** tab.

To view a document:

1. In the **Documents** log, select a document.
2. Do one of the following:
 - To open the document in the default viewer set in your preferences, select , and then select **Open**.
 - To open the document in AutoVue, select , and then select **Open in AutoVue**.
 - To open the document in Microsoft 365, select , and then select **Open in Office for the web**.

You can also select the link in the **Name** column to view or download the document.

3. If you are using Microsoft 365 and you are logging into a new session, select **I Agree** to continue.
4. If you are using Unifier Viewer and the document is protected with a password, enter the password in the **Password required** dialog box after it appears, and then select **Submit**. You can try entering the correct password up to three times.

By default, Unifier Viewer opens the document in a compressed state to reduce the impact on environment bandwidth and improve the time required to display the document. To view the document in its original state, select **Switch to Original Document**. To switch back to the compressed state, select **Switch to Compressed Document**.

To search a document by using Unifier Viewer:

1. Open the document in Unifier Viewer.
2. Select anywhere in the **Comments** box.
3. From the toolbar, select **Search** .
4. Specify the content that you are looking for.

Create an Empty Document

Empty documents are used as placeholders for documents that have yet to be uploaded into Document Manager. For example, a project/shell manager might create an empty document in a folder and then send an action item to a team member to upload the file into it.

You can also import empty documents. See [Import and Export Folders, Properties, and Empty Documents](#).

Empty documents can be populated with files by revising them (replacing the empty document with the completed document). See [Revising Documents](#).

To create an empty document:

1. In the **Documents** log, select **Create**, and then select **Empty Document**. The **Create Document** window opens.
2. In the **Properties** tab, enter the document name.
3. Complete the other fields as necessary.
4. Select the **Options** tab, and select **Revisions must have same file name**, if necessary.
5. Select **Save**. The empty document is created.

Note

To upload a file into the empty document, see [Uploading Files and Folders](#).

Document Properties Window

To open the Documents Properties window:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.

3. Select a document.

When you select a document, the right pane displays the following tabs:

- **Properties**
- **Linked Records**
- **Audit Log**
- **Permissions**
- **Options**

If a data element in the right pane contains a tooltip (a description of the field), a question mark (?) symbol appears next to that field. When you hover over the question mark, the tooltip appears.

Document Properties Window (Properties Tab)

The **Properties** tab has several fields that are categorized under the **General** and **Other** blocks.

General

In this field	Do this
Name	This always appears at the top and is required. For the project/shell Documents or Company Documents root folder, this is not editable.
Location	The folder location within the project/shell Documents node. "/" indicates the project/shell Documents root folder.
Document URL	The URL for the selected document.
Owner	The name of the folder creator or current owner. Select to view the user profile.
Creation Date	The date that the folder was created.
% Complete	This is a calculated field derived from the overall percent complete of all documents within the folder. The % Complete for documents is maintained manually in the Document Properties window.
Description	You can enter an optional description for the folder.

Other

In this field	Do this
Categories (applicable to project-level Document Manager only)	Project administrators can group folders into customized categories. You cannot use Find to search for Category designations, but you can include them in a report (user-defined reports). This field is not present at the company level.

In this field	Do this
Phases (applicable to project/shell level Document Manager only)	In the project/shell level Document Manager, a folder can be associated with one or more project/shell phases, making it accessible only during those phases of the project/shell. This helps ensure that important, phase-specific documents are visible at the appropriate times during the life cycle of the project/shell. Click Select and select one or more phases. The Phase setting controls the visibility of folders. For example, if the project/shell administrator sets the project/shell phase to conceptual design, only those folders tagged with the phase conceptual design, as well as those without a phase tag, will be visible during that phase. If you do not specify a phase, the folder will display during all project/shell phases.

Document Properties Window (Linked Records Tab)

Select **Expand**  to expand the **Linked Records** tab.

The **Linked Records** tab has a tabular log that displays the following information:

- **Record Number**
- **Name**
- **Title**
- **Status**
- **Upload Date**

The right pane of the **Linked Records** tab displays the **Record Details** tab. The **Record Details** tab has several fields that are categorized under the following blocks:

- **General**
- **Details**
- **Calculation**

Document Properties Window (Audit Log)

The **Audit Log** tab has a tabular log that displays the following information:

- **Date**
- **Event**
- **Action**
- **Field Name**
- **Old Value**
- **New Value**
- **User Name**
- **Proxy User**

Document Properties Window (Permissions Log)

The **Permissions** tab has several fields that are categorized under the following blocks:

- **Inherit permissions from the parent folder**
- **Selected Users/Groups**
- **Document Permissions**

Document Properties Window (Options Log)

The **Options** tab lets you select the following option:

- **Revisions must have same file name**

Document Properties Window (E-Sign Log)

The **E-Sign Log** tab has a tabular log that displays the following information:

- **Signee**
- **Status**
- **Initiated Date**
- **Completion Date**

View or Modify Document Properties

You can view or modify (with proper permissions) the **Document Properties** of uploaded files and empty documents. You can also import properties values. See [Import and Export Folders, Properties, and Empty Documents](#).

To view document properties:

1. Select the document in the project/shell **Documents** log.
2. From the right pane, select the **Properties** tab. The folder properties are displayed in the right pane.

To view document options:

1. Select the document in the project/shell **Documents** log.
2. From the right pane, select the **Options** tab. The folder options are displayed in the right pane.

To modify document properties:

1. Select the document in the project/shell **Documents** log.
2. From the right pane, select the **Properties** tab.
3. Make your changes and select **OK**.

To modify document options:

1. Select the document in the project/shell **Documents** log.
2. From the right pane, select the **Options** tab.

3. Make your changes and select **Save**.

Note

The Administrator can specify values on the Document Attribute Form (for Document Properties) that enable auto-sequencing (auto-numbering of documents). You can use document auto-numbering on documents across the Company level or the project/shell level. For example, the Administrator can specify that a Document Name field uses auto-sequencing to give each document a unique number as it is created. The auto-numbering occurs when you select **Apply** or **OK** in the Document Properties window. Later, you can view the auto-numbering of the document by selecting the Properties button to view the Document Properties.

View, Add, or Modify Document Permissions

When you upload a document or when you publish a document from the **Unpublished Documents** sub-node, you become its owner and have full access to it. You can grant other users access to it.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically. They will appear as selected in the document permissions window. However, you can modify these permissions per document if needed.

To view the document permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (document) from the log.
4. On the right pane, select the **Permissions** tab to view the document permissions.

To add or modify the document permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (document) from the log. You can select more than one item.
4. From the toolbar, select **Actions**, and select **Permissions** to open the **Permissions** overlay page. Alternatively, if you are working with one item (document) only, you can select the *gear menu* () next to the item, and select **Permissions**.
5. On the **Permissions** overlay page, you can add or modify the document permissions by using the following options:

- **Inherit form parent folder <parent folder name>**

If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.

- **Assign new permissions**

6. Select **Save** when done, or select **Cancel** to close the **Permissions** overlay page without any changes.

When you are working with more than one item (document), there is an additional option: **Save and Close**.

When you are working with permission of one item (document) only, there are additional options: **Previous** and **Next**. These additional options let you finish your work and navigate to permissions of the previous or the next item.

To modify the folder permissions, deselect **Inherit permissions from the parent folder**.

Do any of the following:

- To add a new user, select **Add**, and add users or groups to grant permission. Select the user from the list and grant or remove individual permission.
- To remove a user's permissions, select the user from the list, and select **Remove**.
- To modify a user's permissions, select the user from the list and grant or remove individual permissions.

Add or Modify Multiple Documents Permissions

To add permissions to multiple documents:

Note

This option does not let you use the existing permissions for the selected documents. For example, if a user 'A' already has permission to one of the selected documents, and if the same user is selected again from the user group picker, then the user A's existing permissions will get overwritten with the new permissions.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. In the **Documents** log (for **Project Documents**), select multiple documents.
4. From the toolbar, select **Actions**, and then select **Permissions**.
5. In the **Permissions** window, assign permissions to users or groups.
By default, permissions will be inherited from the common parent folder of all the chosen files. The inherited permissions will all be read-only. You have option to assign new permissions instead of choosing to inherit from parent folder.

The permissions of file owners can never be removed. If you select multiple files, add the file owners from the users- or group-picker, and select **Remove**, the system removes the file owners from the current permission window. The system does not remove permissions for the file owner.

If you switch between the **Inherit form parent folder <parent folder name>** and **Assign new permissions** options, all the inherited permissions are removed and the **Permissions** page toolbar and grid is updated as if you are proceeding to create permissions from scratch.

If you have already inserted one or more rows in the grid (manually or by copying from parent) and you decide to switch between the **Assign new permissions** and **Inherit form parent folder <parent folder name>** options, the system displays a message stating that

the manually added permissions will be erased and replaced with the inherited permissions. You will have the option to proceed or cancel.

6. When you are done, select **Save**.

Transferring Ownership

You can transfer ownership of a document, or multiple documents, in a folder. The new owner will have all privileges of the original owner.

To transfer ownership:

1. Select a folder, document, or multiple documents.
2. From the toolbar, select **Actions**, and select **Transfer Ownership**.
3. Type the name of the user you would like to transfer the ownership to. As you type, the list of users is refined to show you the closest match.
4. Select a user from the list.
5. Select **Transfer**.
6. Select **Ok**.

Copy a Document

A document can be copied from one location to another, with the option to include any comments or markups associated with it. You can select and copy multiple documents or folders at once. If you copy a document owned by another user, you become the owner of the copy, and the original owner maintains original permissions on the original and copied versions.

Note

You must select a destination folder that is different from the source folder. You cannot copy a document into the same location you are copying it from.

To copy a document:

1. Select the document in the project/shell **Documents** log.
2. Select , select **Edit**, and then select **Copy**.
3. Select the destination folder into which you want to place the document copy.
4. To copy with comments or markups attached to the document, select the **Include Comments/Markups** checkbox.
5. Select **Copy**.

Note

To copy multiple documents, select the documents, go to the toolbar, select **Actions**, select **Edit**, and then select **Copy**.

Move a Document

When a file is moved, comments or markups associated with the document are moved with it automatically. To move a document, you must have the following permissions: *Add Document* folder permission in the destination folder and *Move* document permission in the source folder. If a file with the same name exists in the destination folder, you can choose to either cancel the move, revise the file in the destination folder, or keep both the files. When you select the option to revise, the file in the destination folder is revised and an entry is made in the Revisions tab. When you select the option to keep both files, the file you are moving will be appended with a number to distinguish it from the file that exists. If you are moving multiple files at the same time, you can select the **Apply for all conflicts** checkbox to apply the same action for subsequent conflicts.

To move a document:

1. Select the document in the project/shell **Documents** log.
2. Select , select **Edit**, and then select **Move**.
3. Select the target folder into which you want to move the document.
4. Select **Move**.

Note

To move multiple documents, select the documents, go to the toolbar, select **Actions**, select **Edit**, and then select **Move**.

Rename a Document

You can rename a document, if your administrator has enabled the document name field as an editable and required field. When you rename a document, the change is reflected everywhere the document is referenced or linked. The name is also updated in formulas that use file name in its calculations. Each time a file is renamed, it is tracked and can be viewed from the Audit Log tab.

If you rename a file with a name that exists in the same folder, an alert message is displayed. You can rename the file or choose to keep the same file name. If you choose to keep the same file name, it is appended with an integer. For example: Architecture Diagram.png will be renamed as Architecture Diagram(1).png.

Note

You cannot change the extension of a file; you can only rename the file.

To rename a document:

1. Select the document in the project/shell **Documents** log.
2. Select , select **Edit**, and then select **Properties**.
3. Enter a new file name, and select **OK**.

Delete a Document

When you delete a document, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored to their original location or permanently deleted to save space. You can select and delete more than one document simultaneously.

A document that is attached to a business process (BP) record is linked to it and cannot be deleted from the Document Manager. If the document is linked to a record, it shows a linked records icon in the BP (Linked Records) column of the Documents log. However, if the latest version of the document is not linked to a BP, the icon is not displayed in the log. You can select the document, select **View**, and then select **Revisions** to check if an older revision has linked records. In addition, a document may also contain links to BPs that are still in draft, which will not display as a link to the document until the BP record is sent.

Caution

Use caution when deleting drawing base or reference files. Deleting a linked reference file will cause the file to be marked as missing on the corresponding base drawing file.

Note

If you must remove a document that cannot be deleted, move it from its original location into another folder with limited user access.

To delete a document:

1. In the project/shell **Documents** log, select the document.
2. Select , select **Edit**, and then select **Delete**.
3. When the Confirmation message appears, select **Yes** to confirm to move the document to the Recycle Bin.

Note

To delete multiple documents, select the documents, go to the toolbar, select **Actions**, and then select **Delete**.

Revising Documents

To revise a document, you replace the current version with a new one that you upload from your local machine or that you save if you are using Microsoft 365 (the **Open in Office for the web** option). The new file does not need to have the same file name as the original. This is also how you populate an empty document in the system with the completed document from your local machine or from Microsoft 365.

The newest version of a document is available in the project/shell Documents log. Earlier versions are accessible on the Revisions tab. When a document is revised, the file itself is never changed. It remains untouched. Each version is maintained separately.

The procedures for uploading revisions are the same as for uploading files.

Note

- You can help control revisions by locking documents or checking them out prior to revising. If you have locked the file, you must unlock it before proceeding. If you have checked it out, you can revise it by checking it in, or cancel the check out before proceeding.
- If you are using the co-authoring feature of Microsoft 365 and you want to update a document, make sure that the document supports co-authoring and that the co-authors have permission to access and edit the applicable document. For more information, see your Microsoft documentation.

To revise a document using the Revise function:

1. Do one of the following:
 - If you are revising a file with a new version with the same file name, proceed to the next step.
 - If the revised file has a different name, select the document in the **Documents** log, select **Properties**, and select the **Options** tab. Be sure the **Revisions must have the same file name** checkbox is not selected.
2. Select the document in the **Documents** log.
3. From the toolbar, select **Actions**, select **Edit**, and then select **Revise**.
4. Do one of the following:
 - If you are *not* using Microsoft 365:
 - a. As stated above, make sure that the current file is not locked or checked out.
 - b. In the **Upload** dialog box, drag and drop the revised file to the dialog box or use the **Browse** option to locate and select the file.
 - c. Select **Upload** to bring the revised file into the Document Manager.
 - If you are using Microsoft 365:
 - a. Select **Edit**.
 - b. If there is more than one user updating the same document, verify that all instances are participating in the same co-authoring session. Whenever you invoke the **Edit** action on a Microsoft 365-supported document, a new revision is created. When another user joins the co-authoring session while your session is active, changes from both users are saved in the same revision of the document.

The publication number (Pub. No.) of the file increases by one for each revision uploaded. For example, the first time you upload a document, the publication number is 1. If you revise it, the publication number becomes 2, and so on.

To revise a document automatically upon uploading:

1. Follow the procedure for uploading documents.
2. In the **Upload** window, select the **Revise automatically if file with same name exists** option.

If you are uploading a file that has the same file name as a document that exists in the Document Manager target folder, that document will automatically be revised to the newly uploaded version.

To learn more about comparing two versions of a document and file attachments, see the *Unifier Business Processes User Guide*.

Viewing Previous Revisions

You can view earlier versions of a revised document, including any comments or markups or linked business processes (BPs) on previous versions.

To view earlier versions of a document:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. Select a document in the log.
4. From the right pane, select the **Revisions** tab.
Previous versions of the document are displayed on the right pane.
5. Select a file version, select the *gear menu* () , and then select one the following actions:
 - To download the selected version, select **Download**.
 - To make the selected file the current version of the file, select **Restore this Revision**.
 - To view the list of BP records to which the selected version is linked, select **View Linked Records**.

Restoring to a Previous Revision

You can revert to a previous version of the file, if you have the **Revise Document** permission. When you restore a file, all comments and references associated with it are also restored. It also gets tracked in the Audit log.

If the **Revisions must have same file name** option is selected, you cannot restore to a revision with a different name.

Note

The following HTML special characters / \ : * ? " < > | cannot be used in the file name.

The selected version becomes the current version.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. Select a document in the log.
4. From the right pane, select the **Revisions** tab. The Revisions tab is displayed only if the file has revisions. The Revisions tab displays all previous versions of the document.
5. Select the version you want to revert to, select , and then select **Restore this Revision**. The selected file now becomes the current file. This change is tracked and can be viewed from the **Audit** tab. The **Restore this Revision** option is displayed only if you have the **Revise Document** permission.

Checking In and Checking Out Documents

The Document Manager's check-in and check-out capability helps you have greater control over document revisions. If you must revise a file, you have the option of checking it out, which locks it and prevents others from modifying it. It is available to other users as view only. You can change the document as necessary, and then check in the new revision.

The procedure for checking out a document is similar to downloading a document. The procedure for checking in a document is similar to the procedure for revising a document.

When a document is checked out, the check-out icon appears next to the document name in the Document Manager log.

To check out a document:

1. Select the document in the project/shell **Documents** log.
2. Select , select **Actions**, and then select **Check out**.
3. Download a copy of the file to your local system.

Note

- If you cancel the download procedure, the document will still be checked out to you.
- To check out multiple documents, select multiple documents, select **Actions**, select **Edit**, and then select **Check Out**.

The **Check Out** icon appears next to the document in the log. You can upload a new revision and check the document back in, or you can cancel the check out without revising the document.

To check in a new revision of a checked out document:

1. Select the document in the project/shell **Documents** log.
Checked-out documents have an icon in the lock column.
2. Select , select **Actions**, and then select **Check in**.
3. In the **Upload** page, select the ellipsis icon , and select **Browse**.
4. Locate and select the file that you want to check in.
5. Select **Upload** to upload the revised file.

The publication number (Pub. No.) of the file increases by one for each revision uploaded.

Note

To check in multiple documents, select multiple documents, select **Actions**, select **Edit**, and then select **Check In**.

To restore a checked out document without checking in a new revision:

1. Select the checked out document in the project/shell **Documents** log.

2. Select , select **Actions**, and then select **Cancel check out**.

The document will no longer be checked out.

 Note

To restore multiple checked out documents, select multiple documents, select **Actions**, select **Edit**, and then select **Cancel Check Out**.

To ascertain which user has a document checked out:

1. Select the checked out document in the project/shell **Documents** log.
2. From the right pane, select the **Audit Log** tab.
The Audit Log report displays the complete history of the document, including who last checked out or revised it.

Lock and Unlock Documents

If you are the owner of a document, you have the option of locking the document to prevent it from being revised or modified. After a document is locked, only the document owner (or an administrator with proper permissions) can unlock it.

When a document is locked, users can:

- View the document, revision log, and audit log.
- Download or copy the document.
- Create a shortcut to the document.
- Modify document permissions.
- Move a document, or move the folder containing the document.

When a document is locked, users cannot:

- Delete, revise, edit properties, transfer ownership, or add comments or markups.

To lock or unlock a document:

1. Select the document in the project/shell Documents log.
2. Select , select **Actions**, and then select **Lock** or **Unlock**.

 Note

- Only the document owner or an administrator with full access can lock or unlock a document.
- To lock or unlock multiple documents, select **Actions**, and then select **Lock** or **Unlock**.
- Only the document owner or an administrator with full access can lock or unlock a document.

Adding and Viewing Graphic Markups and Comments

In project or shell documents, you can add text comments or create graphic markups on a document. You can also attach a file directly to a comment (for example, supporting documentation).

You can add comments and markups only to the latest version of a document. For earlier versions, you can view existing comments and markups but cannot add or edit them.

Text comments act as notes that accompany the document without becoming part of it.

Graphic markups function like an invisible overlay. When multiple users add markups, each user's markup resides on its own "sheet." You can view them all together, view them one at a time, or hide them. Every markup is associated with a text comment.

Text comments and graphic markups can be copied between business process (BP) records and the Document Manager, including:

- Comments on documents in the Document Manager
- General comments on business process records
- Comments on file attachments in non-Documents-type BP records
- Comments on file attachments (line item content) in Documents-type BP records
- Markups on file attachments that were added within comments

Opening a Document to View Comments

To open a document using the Unifier Viewer:

1. Select a document.
2. Select , and then select **Open**, or select the link in the **Name** column to open the document.
3. If the document is protected with a password, enter the password in the **Password required** dialog box after it appears, and then select **Submit**.
You can try entering the correct password up to three times.

The document and any associated comments are displayed in one window. By default, the system displays one page at a time. You can use the **Page Number** field or the arrows to scroll through the pages. You can also select **Switch to Full Document** if you want to view the complete document in a single view instead of viewing individual pages.

The **Comments** section on the right displays a list of existing comments. You can highlight and view all comments in a single view. If you are in pagination mode, this only applies to the comments on one page. If you are in full document mode, this applies to all comments across all pages.

Note

Older comments entered using OIT are shown in read-only mode and are excluded from the option to view all comments in a single view.

To highlight the comments (annotations):

1. Choose one of the following:
 - To highlight multiple comments in a multi-page document, make sure that you are using full document mode (**Switch to Full Document**).

- To highlight multiple comments on a specific page, make sure that you are in pagination mode (**Switch to Page level Document**).
2. In the **Comments** pane on the right, select the applicable comments by pressing the **Ctrl** key and then selecting the applicable comments.

To open a document using AutoVue:

1. Select a document.
2. Click , and then select **Open in AutoVue** to open the document. This option displays only if your Unifier server is configured to use AutoVue.

Adding Markups, Comments, and File Attachments

Note

All comments are displayed in both viewers regardless of which viewer the comments were added in. Markups are visible only in the viewer they were made in.

To mark up a document using Unifier Viewer:

1. Select a document.
2. Select , and then select **Open** to open a document.
3. To activate an additional set of tools, such as **Pan**, **Select**, **View**, **Annotate**, **Shapes**, and so on, select anywhere in the **Comments** box.
4. Use the applicable tools to mark up your document.
For example, to annotate a document, from the toolbar, select **Annotate**, and then select one of the tool buttons located below it, such as **Highlight**. After you select a tool, additional options appear in the container section to the right of the toolbar. If you selected **Highlight**, you might also want to select a specific color to use. If you select **Shapes**, you can add different objects, such as arrows, or draw boxes around specific content.
5. If applicable, enter your comments in the **Comments** box.
6. To add attachments to your comments, select **Attachment**, and upload the applicable attachment.
7. When you are done, select **Post**, which is located below the **Comments** box.

To mark up a document using AutoVue Viewer:

This option displays only if your Unifier server is configured to use AutoVue.

1. Select a document.
2. Select , and then select **Open in AutoVue** to open a document.
3. Ensure you have selected the latest revisions of the document.
4. Select the **Markup** icon in the **Comments and Revision** window.
5. Use the markup toolbar displayed in the **Document** window to mark up your document.
6. Enter your comments in the **Comments and Revisions** window and select **Post**.
7. To add attachments to your comments, select the **Attachment** icon.

Viewing and Adding New Markups in AutoVue

In addition to adding markups to a DM document, you can add and view old markups simultaneously. With this functionality, multiple members can add various markups across shared files throughout the life cycle of a design document.

When you select **Open in AutoVue** in the *gear menu* () of the document, a **View All Markups** option is available in the **File Viewer** of the **Comments and Revisions** window. If you select **View All Markups**, the document is displayed in View-Only mode.

You can also choose the markups that are displayed by selecting the checkbox next to each markup. After selecting **OK**, all the chosen markups are displayed.

Creating and Adding Stamps to Documents

The system includes standard stamps, such as Approved, Completed, Confidential, and so on. You can use these stamps to mark a document. You can also create your own unique stamps (duplicates are not allowed).

To create additional stamps for use within Unifier Viewer:

1. After opening a document in Unifier Viewer, select anywhere in the **Comments** box.
2. From the toolbar, select **Insert** to display an additional set of options.
3. Select **Rubber Stamp** .
4. On the **Custom** tab, select **Create New Stamp**.
5. In the **Create New Stamp** window, use the features to design a stamp, and then select **Create**.

The stamp is added to the list of stamps available for use on the Custom tab.

To add stamps to a document that was opened using Unifier Viewer:

1. After opening the document, go to the location in the document where you want to insert a stamp.
2. Select anywhere in the **Comments** box
3. From the toolbar, select **Insert**, and then select **Rubber Stamp** .
4. On the **Standard** or **Custom** tab, select the applicable stamp, and then select the applicable location in the document to mark it with the selected stamp.

Adding Bookmarks to Document pages

The system lets you bookmark specific pages in a document within Unifier Viewer and use those bookmarks later for quicker retrieval.

To bookmark a page:

1. After opening a document in Unifier Viewer, select anywhere in the **Comments** box.
2. Make sure that you are viewing the document in pagination mode (**Switch to Page level Document**) and not full document mode (**Switch to Full Document**).
3. From the toolbar, select **Panel** to display an additional set of options.
4. Select the **Bookmarks** tab.
5. Go to the page that you want to mark, and either select the Bookmark icon  or select **+ Add Bookmark** at the bottom of the Bookmarks tab and enter a custom name for the bookmark.

When a page is bookmarked, the Bookmark icon is filled in on the applicable page instead of appearing as an outlined icon.

To view a list of bookmarks:

1. After opening a document in Unifier Viewer, select anywhere in the **Comments** box.
2. From the toolbar, select **Panel** to display an additional set of options.
3. Select the **Bookmarks** tab.
The list of existing bookmarks is displayed on the Bookmarks tab.

Send for E-Signature

To send one or more documents to another Unifier user or to an external user for an electronic signature (e-sig):

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. In the **Documents** log, locate and select the applicable documents.
4. From the toolbar, select **Actions**, and then select **Send for E-Signature**.
5. In the **Request eSignature** dialog box, enter the names of the recipients.
The **Internal recipients** field lets you either enter a user or group name or select **Request eSignature**



to access the **Add users and groups** window.

The **External recipients** field lets you enter email addresses separated by commas or semicolons.

6. If you need signatures completed in a specific order, select **Sequential Order**, and then select **Change the order of signers** (



) to set the order.

7. Enter a mandatory **Subject**.
8. Enter an optional **Message** (fewer than 1000 characters).
The attached documents appear below the Message field. To remove a document, select the corresponding Remove (X) option.
9. Select **Send**.
If the number of files selected or the size of the files exceeds the limits defined by DocuSign or Acrobat Sign, the system displays an error message. Make the applicable adjustments and try again.

Alternatively, you can select a single document, select the *gear menu* () , and use **Self-sign** or **Send for E-Signature**.

E-Sign Log tab

If your administrator has used the **Integration** node to configure and activate **DocuSign** or **Acrobat Sign** and a document has been self-signed, or a document has been sent to an internal or external user, when the recipient selects the document in the Documents log in the

Document Manager, in addition to the existing tabs on the right side, the log displays the **E-Sign Log** tab. The **E-Sign Log** tab contains:

- The message that was sent when the sender selected **Send** in the **Request eSignature** window.
- A list of all users who received the document for signature.
- A list of all users who self-signed the document.
- A Print option.
- A Download option.
- The columns for Signee, Status, Initiated Date, Completion Date, and Signer Number.

E-Signature Status column

If your administrator has used the **Integration** node to configure and activate **DocuSign** or **Acrobat Sign**, the system displays the **E-Signature Status** column in the Documents log in the Document Manager (select **View**, and then select **All**). When creating a view, you can include the **E-Signature Status** column in any order you select for the log. The following values are displayed in the **E-Signature Status** column:

- **In Progress:** When at least one signer or assignee must bring the signing task to a **Terminal** status (**Completed**, **Declined**, or **Reassigned**).
- **Completed:** When the status is marked **Completed** or **Reassigned**.
- **Declined:** When the status is marked **Declined** by at least one signer or assignee. If there is more than one signer, the **Declined** status overrides the status for other signers.

Note

These values are represented by yellow, green, and red icons.

In the **E-Signature Status** column, the values are sorted by **Completed**, **In-Progress**, and **Declined** statuses.

You can use the following file types if you select **DocuSign**:

Format	Extension
Document	.doc, .docm, .docx, .dot, .dotm, .dotx, .htm, .html, .msg, .pdf, .rtf, .txt, .wpd, .xps
Image	.bmp, .gif, .jpg, .jpeg, .png, .tif, .tiff .dwg: If DocuSign does not support this type of file, the system converts it to a .pdf prior to sending it for e-sign.
Presentation	.pot, .potx, .pps, .ppt, .pptm, .pptx
Spreadsheet	.csv, .xls, .xlsm, .xlsx

You can use the following file types if you select **Acrobat Sign**:

Format	Extension
Document	.doc, .docx, .txt, .rtf, .odt

Format	Extension
Image	.jpg, .png, .gif, .tif .dwg: If Acrobat Sign does not support this type of file, the system converts it to a .pdf prior to sending it for e-sign.
Presentation	.ppt, .pptx
Spreadsheet	.xls, .xlsx

About Actions options

If a document is already sent for E-signature but the signing process is not yet complete (the E-signature Status has not yet reached a terminal state), you cannot check out, lock, or revise that document. If you try to check out, lock, or revise the document, the system displays: This action cannot be performed on documents whose E-Signature process is not yet complete.

About email containing an E-signature task

When you (a Unifier user) receive an E-Signature email notification to sign a document, select **Login** in the email, enter your sign-in credentials. The system opens the document in DocuSign or Acrobat Sign and you can sign.

Note

To receive E-signature task notification emails, ensure that you have selected to receive emails with E-Signature task in your **Preferences**.

Exceptions:

- If the **E-signature** node is not deployed from the User Mode Navigator for the project/shell in which the task resides, then, when you sign in, the system takes you to the home tab of the **E-Signature Tasks** node, and the E-signature task can be accessed from this log.
- If the **E-signatures** node is not deployed for the **Home** tab as well, then, when you sign in, the system takes you to the project/shell landing page and displays the message: You do not have permission to view E-Signature tasks. Contact your Company Administrator.

The above conditions apply only if the status of the E-Signature Task that is sent to you is "In Progress." If the status is not "In Progress," the task window does not appear. Instead, you will be navigated to the E-Signatures node in the respective project/shell or home tab (or to the shell landing page if the node is not deployed). In the latter case, you will be presented with the message: You do not have permission to view E-Signature tasks. Contact your Company Administrator.

Document Manager (DM) and E-Signature

When the E-signature process for a document is incomplete (E-Signature Status = In Progress), the E-signature request sender or the document owner can select the *gear menu* () , and select **Recall E-Sign Request**.

Note

This option is not available when the E-signature process is complete or when a document has not been sent for E-signature. Alternatively, you can select Actions from the toolbar, and select Recall E-Sign Request.

The Recall E-Sign Request option is available only to the:

- E-Signature request sender
- Document Owner

Other users will not be able to view or act even if all other conditions are met.

If you select multiple documents in the [Document Manager \(DM\) Log](#) and select **Recall E-Sign Request**, then:

- If all the selected documents are such that their E-Signature Status = In Progress, the system displays the **Recall E-Sign Request** option. If you select this option, a confirmation message appears that indicates *all* files associated with the selected envelopes will be recalled. If you select **Yes**, the files are recalled and the E-signature Status is set to Recalled on the Documents log in the Document Manager, E-Signatures node, Attachments tab, and File Viewer. Additionally, for each document:
 - The E-signature request sent out to each signee who has not yet completed the E-signature request (E-signature Status = In Progress) is recalled, and the E-signature Status = Recalled.
 - The E-Signature status column in the DM log is set to Recalled.

Note

There might be signees who have completed the E-signature request. Irrespective, the E-Signature Status for the file in DM is set = Recalled.

- The E-Signature Status in the E-Signatures node for each signee who has not yet completed the E-Sign task is set = Recalled, in the E-Sign Log tab as well as in the E-Signatures log.
- When you proceed to open a task that has been recalled, the system displays the alert: This E-signature task has been recalled and cannot be acted upon.
- If an E-signature request is recalled for an External User, that user will not be able to act upon the E-signature request by selecting at relevant links in the E-signature email from Acrobat Sign or DocuSign.
- If any document in the user's selection has a completed E-signature request, or it has not been sent for E-signature at all, no change will take place, and the system ignores the recall request.

When you select a file in DM Tile View and select the *gear menu* () , the following options are available depending on the E-Signature Status of the selected document:

- Self-sign
- Send for E-Signature
- Recall E-Sign Request

Additionally, similar to the Flat View, the E-signature-related actions are available when you select one or more files in Tile View and select Actions.

After all recipients have signed the request, they receive an e-mail notification. If they are using DocuSign, individual attachments are included in the email. If they are using Acrobat Sign, a single file that contains the combined documents is included with the email. For Unifier users, the signed file can also be viewed on the **E-Signatures** node. The signatures of the recipients appear on the actual page that they signed; they are not grouped on a specific page.

Document Manager (DM) Filters

You can filter files in the DM log based on the E-Signature status (for more information, see [Working with DM Log Views](#)). If all the E-signature features are enabled for the Company, Shell, and Project home landing pages, the Filters tab within the Documents log in the Document Manager displays the E-signature Status as a field on the basis of which user can filter the records. You can filter on basis of multiple E-signature statuses, and you can see the operators "equals" and "does not equal." The options are available at the end of all other fields, if configured, in uDesigner.

Document Manager (DM) Log

If your administrator has used the **Integration** node to configure and activate **DocuSign** or **Acrobat Sign**:

- The **Search** window within the DM log displays **E-Signature Status** as an option, which lets you search for files with particular E-signature statuses within the DM. The search parameters are available at the end of the list of all other parameters within the **Search** window, and you can conduct a search based on E-Signature Status.
- Your search results log displays the **E-Signature Status**, which lets you filter the DM files based on the status that you are searching for.
- The **All** option under **View** lets you view all files and run the find option on the **E-Signature Status**.

If your company or project/shell is configured to display a value for the E-signature type (Acrobat Sign or DocuSign):

- When you export, or import, the structure and properties of a file in the DM, the CSV or Microsoft Excel file will contain an additional column, **E-Signature Status**, before the **Categories** column. The value of the status cannot be modified because the value is system-populated based on the file status through the E-signature process.
- An export file is populated with the E-signature status value, but an import file will always ignore the values contained in the **E-Signature Status** column.

Note

If you enter values in this column during import, the system will ignore your input and run the import for remaining columns that allow modification.

If there are pending E-signature tasks for an existing E-signature type and you change the signature type at the project/shell level, the system will display an alert message that lets you recall those pending E-signature tasks and change the signature type. If you do not recall the pending tasks, the E-signature type at project/shell level will not change.

If you change the E-signature type of a project/shell from "Default" to another value that matches the "Default" set at the company level, and there are pending E-signature tasks for the "Default" E-signature type, the system displays a message that the newly chosen E-signature type value is the same as the company Default and lets you decide whether you still want to change the E-signature type. The same behavior applies when you change the E-signature type to "Default," and the "Default" value is the same as the current E-signature type value.

Linked Documents

If a DM file is attached to a BP record, the system lets you sign or send it for E-signature from within the DM.

If a linked file is sent out for E-signature, the BP record will remain linked to the original file. The E-signature status, E-signature log, and so on, from DM does not reflect back into the BP record. When the E-signature process from DM is complete, the BP continues to show as linked to the original file; however, the DM displays the signed and revised file.

Note

If you link a DM file to a BP record and send the DM file for E-signature from the DM as well as the BP record, the result will be similar to attaching a checked-out file from DM to a BP record. In this case, the system revises the file on the BP record (the E-signature request [DM or BP record] that completes first revises the file in the DM first).

Creating and Managing Shortcuts

You may create convenient shortcuts to frequently used documents or folders.

Document and folder permissions always take precedence. That is, you must have the proper permissions to view, open, or modify the document or folder to which the shortcut is pointing.

Use Shortcuts

Shortcuts are a convenient way to quickly navigate to important or frequently used documents and folders. They can be used to quickly access and view a document or folder. Shortcuts cannot be downloaded.

Note

If a folder or document is moved, any shortcuts that have been created for it will point to the new location. However, if you rename or delete a document or folder, any associated shortcuts will not be automatically modified. Users who try to use a shortcut to a document or folder that has been renamed or deleted will see an error message.

To use a shortcut:

Do one of the following:

- Select the shortcut in the project/shell Documents log, and select **Open**.
- Double-click the shortcut.

If the shortcut is to a folder, the folder opens in the folders view, displaying the contents. If the shortcut is to a document, the document opens.

Create a Shortcut

You may create a shortcut to a document or a folder. Selecting a shortcut to a folder displays the folder contents. Selecting a shortcut to a document opens the document for viewing.

Note

For ease of use, create shortcuts to commonly used documents and folders and store them in a central folder.

To create a shortcut:

1. Select the folder in which you want the shortcut to reside.
2. Select , and then select **Create Shortcut**. The New Shortcut window opens. In the **Name** field, enter a name for this shortcut. You can rename the shortcut.
3. In the **Source** field, select **Browse**. The Select Files window opens.
4. Select the document or folder for which you want to create the shortcut. You can select **Find on Page**  to help you find a particular document or folder.
5. Click **Select**. The shortcut is created in the selected folder.

View or Modify Shortcut Properties

The Shortcut Properties window consists of the name of the shortcut as it appears in the project/shell Documents log and the path of the document or folder to which it points. It is not customizable in uDesigner.

In this field	Do this
Name	The name of the shortcut, as displayed in the log.
Source	The path of the file or folder to which the shortcut points. You can select Browse to change the source.

To view shortcut properties:

1. In the project/shell Documents log, select the shortcut.
2. From the right pane, select the **Properties** tab.
The folder properties are displayed in the right pane.

To modify shortcut properties:

1. In the project/shell Documents log, select the shortcut.
2. Select the *gear menu* , select **Edit**, and then select **Properties**.
3. Make your changes and select **OK**.

Modify Shortcut Permissions

When you create a shortcut, you become its owner and have full access to it. You can grant other users access to it. A shortcut will have limited permission settings related to the document or folder to which it points.

If you have granted folder-level permission to other users and allowed the permission to apply to the contents of the folder, those permissions will apply to the documents that you add to it automatically; however, you can modify these permissions per document if needed.

To view the shortcut permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (shortcut) from the log.
4. On the right pane, select the **Permissions** tab to view the folder permissions.

To add or modify the shortcut permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents** to open the **Documents** log (for **Project Documents**).
3. Select an item (shortcut) from the log.
4. From the toolbar, select **Actions**, and select **Permissions** to open the **Permissions** overlay page. Alternatively, you can select the *gear menu* () next to an item, and select **Permissions**.
5. On the **Permissions** overlay page, you can add or modify the shortcut permissions by using the following options:
 - **Inherit form parent folder <project name>**
If the **Inherit permissions from the parent folder** checkbox at the top of the window is selected, the folder-level permissions will apply automatically and cannot be modified.
 - **Assign new permissions**
 - **Inherit Permissions** (View drop-down list)
 - **Apply these permissions to documents and sub-folders**
6. Select **Save** when done, or select **Cancel** to close the **Permissions** overlay page without any changes.

Copy a Shortcut

To copy a shortcut:

1. Select the shortcut in the project/shell Documents log.
2. Select , select **Edit**, and then select **Copy**.
3. Select the destination folder into which you want to copy the shortcut.

4. To copy with comments or markups attached to the document, select the **Include Comments/Markups** checkbox.
5. Select **Copy**.

Move a Shortcut

To move a shortcut:

1. Select the shortcut in the project/shell Documents log.
2. Select , select **Edit**, and then select **Move**.
3. Select the target folder into which you want to move the shortcut.
4. Select **Move**.

Rename a Shortcut

To rename a shortcut:

1. Select the shortcut in the project/shell Documents log.
2. Select , select **Edit**, and then select **Properties**.
3. Enter the new name, and select **OK**.

Delete a Shortcut

When you delete a shortcut, it is moved to the Recycle Bin. Items in the Recycle Bin can be restored back to their original location or permanently deleted. Deleting a shortcut does not delete the folder or document to which it points.

To delete a shortcut:

1. Select the shortcut in the project/shell Documents log.
2. Select , select **Edit**, and then select **Delete**.
3. Select **Yes** to confirm. The document is moved to the Recycle Bin.

Note

To delete multiple shortcuts, select the shortcuts, go to the toolbar, select **Actions**, select **Edit**, and then select **Delete**.

Change the Shortcut Source

You can change the file or folder to which the shortcut points by choosing a different source in the Shortcut Properties window.

To change a shortcut source:

1. In the project/shell Documents log, select the shortcut.
2. Select , and then select **Edit Properties**.

3. If you want to rename the shortcut automatically with the name of the new source document or folder, delete the name in the **Name** field.
4. In the **Source** field, select **Browse**, and browse to the new source document or folder.
5. Make your changes, and select **OK**.

Favorites

Creating your Favorites List

Select and tag your frequently used files and folders within DM log, as favorites. This list is user specific and lets you view, access, and delete frequently visited items in Document Manager.

To add files or folders to your favorites list:

1. From the DM log, select a file or folder.
2. Select , and then select **Add to Favorites**.

Managing Your Favorites List

To view your Favorites list, from the Document Manager log, select  **Favorites**. A pop-up window displays all your files and folders that you have marked as favorite.

Task	Action
Sort the order of your files and folders.	From the Favorites pop-up window, drop and drag files or folders to change the order.
Find files or folder	From the Favorites pop-up window, select Find on Page , and start typing the name of your file or folder.
Remove files or folders from your Favorites list.	From the Favorites pop-up window, select a file or folder, select  , and select Delete .
View the path of your file or folder	From the Favorites pop-up window, hover over a file or folder to view its location.
View the folder and file in the DM log	From the Favorites pop-up window, select a file or folder, select  , and select Go to Folder .

Opening your Favorite File or Folder

To open your favorite file or folder:

1. From the Document Manager log, select **Favorites**. A pop-up window displays all your files and folders that you have marked as favorite.
2. To open a file:
From the Favorites pop-up window, select a file, click , and then select **Open** to open the file using the default Unifier Viewer. To open the file in AutoVue, select a file, click , and then select **Open in AutoVue**.
3. To open a folder:

From the Favorites pop-up window, select a folder, click , and then select **Open** to open the folder in the Document Manager log.

Uploading Files and Folders

You can upload files or folders from your local system into the **Document Manager**.

Note

- You can navigate to different parts of the application through any browser, while the upload is in progress (in the background).
- If you are using an Oracle Cloud deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

Asynchronous upload of files or folders lets you upload files while simultaneously using the application. The login session is kept active if there are pending uploads; uploads are canceled if you sign out of the application.

You can view the status of your upload by selecting the **Upload Status**  icon on the top banner (next to the **Announcements** icon). The color of this icon changes from blue (in progress) to green (successful) or red (failed) to indicate the status of the uploads. The Upload Status window displays a list of all files or folders that were uploaded within the last 15 days. From this window, you can see the name of the uploaded file or folder, size of the file, the reason for the failed upload, and the number of files in the uploaded folder. You can select the file name or folder name to open or save the file. From the Upload Status window, you can also cancel pending and in progress uploads, and clear the upload history.

The file size for the uploads must be more than 0 bytes and less than the size limit that has been specified in the **Unifier Configurator** (~2.5 GB).

If the file size for the uploads is not specified in the **Unifier Configurator**, the actual file size for the uploads depends on the following:

- The network bandwidth, session time-out setting, and other pertinent parameters.
- Browser restrictions.

Additional information

- While you can upload an extensive range of document file types, Unifier Viewer only supports the markup of the types listed in the table in [View and Open Documents](#). If you try to view a file type that is not supported, the system displays a message that it is not supported but that you can download it. You can also use the **Comments** box to add notes regarding the file.
- The following drawing file types are supported: DWG and DGN
- Drawing files are always uploaded synchronously, regardless of the browser you are using. When selecting multiple files all the files will be uploaded synchronously, if the upload contains one or more drawing files.
- You can drag and drop folders onto the **Upload** window only if you are using Google Chrome or Microsoft Edge.

- You can view the parent folder of the uploaded file in the **Update Status** window.
- You can navigate to the uploaded folder from the **Update Status** window.

Using the Upload Status Window

From the top banner, select the **Upload Status**  icon to view the Upload Status window. From this window, you can do the following:

- View a count of pending uploads.
- View the status of uploads. Failed uploads are in red; you can select **Info** to view the reason for the failed upload.
- Cancel a pending or in-progress upload. Hover around the file or folder name, and select **X**. To cancel all pending and in-progress uploads, select **Cancel All**.
- Open or save the uploaded file or folder. Select the file or folder name.
- Open the parent folder of the uploaded file. Select the folder icon next the uploaded file.
- Clear the upload history. Select **Clear**. The history is saved for 15 days.

Uploading Files and Folders

1. Choose the applicable location:
 - For a project/shell, from the left Navigator, select **Document Manager**, and then open the applicable sub-node.
 - For company-related documents, from the left Navigator (**User** mode), select **Document Manager**, and then select **Company Documents**.
2. Select the destination (target) folder into which you want to upload the files.
3. From the toolbar, select **Upload** .
In the **Upload** dialog box, you can select the **Revise automatically if file with same name exists** option, if necessary. The other two options (**Upload files only** and **Upload folders and files**) are selected by default and based on the folder options (**Options** tab).
4. Proceed to drag and drop the files or folders to the **Drag and Drop** field. Alternatively, you can select anywhere in the **Drag and Drop** field, and select the file or folder to upload by way of the Windows File Explorer.
5. Select **Upload**.
After a few seconds, the system will display a confirmation message. The file upload time depends on your server and network bandwidth.

If you want to delete an item in the **Upload** dialog box, select the item, select the icon *** to the right, and select **Delete**.

If Unifier Viewer is your default file viewer, the system converts new documents for use with the viewer. If you try to view a new document before conversion is finished, the system displays a file conversion message.

Downloading Documents and Folders

You can download copies of documents from the Document Manager to your local or network drive.

Note

If you are using an Oracle Cloud-based deployment, the system displays a message when you choose to view or download files or attachments that have not been scanned for viruses. To continue, you must select **Yes** or **No**. If you select **Yes** and the system determines that the file is infected, the download is stopped; otherwise, the download completes successfully.

When you download files, the name of the downloaded files must be unique. If you select multiple documents or files in the Unpublished Documents folder of the Document Manager and select to download them, and you notice that not all your selected documents have been downloaded, it is because duplicated names existed in the Unpublished Documents folder.

The file size for the *downloading* must be more than 0 byte. The actual file size for the *downloading* depends on the following:

- The network bandwidth, session time-out setting, and other pertinent parameters.
- Browser restrictions.

By default, the latest version of a document will be downloaded.

Shortcuts, empty folders, and empty documents cannot be downloaded.

If the download window (Java console plug-in) is still open on your machine, you may not be able to delete, move, or modify the downloaded file as it will appear to be in use. If this is the case, close the plug-in window.

To download a document:

1. Select the document to be downloaded. You can choose only one document at a time.
2. Select the **Download** button.
3. If the document is a drawing file with reference files, the Reference window opens, listing all drawing and reference files. Select the **Download** button next to one of the files to download. The File Download window opens.
4. Select the **Save** button. The Save As window opens.
5. Browse to the location where you want to download the file and select **Save**.
6. If you are downloading drawing and reference files, repeat for each file.

To download a file or folder:

1. Select one or more documents or folders in the documents log.
2. From the **File** menu, select **Download**. The Download Files and Folders window opens.
3. Browse to the location where you want to download the files.

Importing and Exporting in Document Manager

The following topics describe how to import and export using the Document Manager.

Import Folder Structure Template

If a folder structure template has been created in Admin mode (Standards & Libraries), you can import it into your project/shell document manager to quickly create a predesigned structure of

folders and subfolders. You can import the folder structure template into the root project/shell Documents or Company Documents node or into any subfolder.

To import a folder structure template:

1. In the project/shell or Company Documents node, navigate to the target folder (or the project/shell Documents root node) into which you want to import the new folder structure.
2. From the toolbar, select **Actions**, select **Import**, and then select **Folder Structure Template**. The Select Folder Template window opens.
3. Select a template from the drop-down list.
4. You can preview the template structure by selecting the **Preview** button.
5. When you are ready to import, select **Import**. The folders and subfolders defined in the template are created within the target folder you selected.

Import and Export Folders, Properties, and Empty Documents

You can import a folder structure and folder metadata (properties, such as the enabling of auto-sequencing of formulas and other values) from a CSV or Microsoft Excel file. This procedure also allows the import of empty documents into the structure.

Note

The term "file" in this topic applies to both comma-separated values (.csv) and Microsoft Excel files.

You can export the current structure and properties after making the selection in the **Document Manager**. The export file (the file name is suffixed with "Project Documents") has the following worksheets or tabs:

- **Instructions** tab: This tab contains important instructions, tips, and additional information. Ensure that you read the contents.
- **Project Documents** tab: Use the **Project Documents** tab to update document structure and properties.

You can update the exported file and import it using the options available under **Actions**.

Before importing a file into **Document Manager**, you must follow these steps:

Step 1: Export structure and properties to a file

Your options are:

- **Structure and Properties (CSV)**
- **Structure and Properties (Excel)**

Exporting the existing structure and properties creates the file structure (rows and columns).

The file template will contain a list of documents and folders with their full paths and all attributes displayed on the **General** tab of folder and document properties (either by default or by design).

Documents and folder rows are identified by the first column (type).

The location of the folder or document is identified in the second column.

The order in which the columns appear is the same as they appear in the folder and document properties forms.

Step 2: Modify the file

While ensuring that you do not change the structure, proceed to add new folder, folders, document properties, or empty documents to the file.

You can only modify the columns that are modifiable in project/shell documents.

The read-only fields cannot be modified by importing.

Folder and document names are case sensitive.

Note

As of the date of publication, there is a known issue with Microsoft Excel CSV files with 15 or more rows. See the procedure below for details.

Step 3: Import the modified file

Your options are:

- **Structure and Properties (CSV)**
- **Structure and Properties (Excel)**

The imported file can include new folders and documents (empty documents), as well as modified or additional properties that have been applied to existing folders and documents.

You can upload files into empty documents later by using the **Revise** option.

Export structure and properties to a file

To export structure and properties to a file:

1. Select specific folders or documents to export.
2. From the toolbar, select **Actions**, select **Export**, and then select **Structure and Properties**.
3. Select **Yes** to confirm.
4. Save the file to your local system.

Modify the file

To modify the import file:

1. Open the file in a compatible software application.
2. If needed, add new folders or documents in rows (will be added as empty documents) as needed.
You can also add property information to existing folders and documents. This includes enabling the auto-sequencing of formulas and other values.
3. Save the file.

Note

As of the date of publication, there is a known issue in the way that Microsoft Excel handles CSV files with 15 or more rows. In CSV files, columns are separated with commas. However, when the CSV template is opened with Excel, if one or more columns toward the end are empty, Excel drops the additional commas from the 15th row onward, resulting in an error when you try to import the file. You can work around this in one of two ways:

- Add your data to the CSV file in Excel and save the file. Reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.
- Use the text editor instead of Excel to modify column values in the CSV file.

Import the modified file

To import the modified file into the **Document Manager**:

1. In project/shell **Documents**, select the folder into which to import the structure or properties.
2. From the toolbar, **Actions**, select **Import**, and then select **Structure and Properties**.
3. In the **File Upload** window, browse for the file, select it, and select **Open**.
4. When the confirmation message appears, select **Yes** to download a status file or **No** to skip.

View the Import Audit Log

1. Navigate to:
 - (For Document Manager at the company level) Go to the **Company Workspace** tab, and switch to **User** mode. In the left Navigator, select **Document Manager**, and then select **Company Documents**.
 - (For Document Manager at the project/shell level) Go to the shell tab, and switch to **User** mode. In the left Navigator, select **Document Manager**, and then select **Documents**.
2. In the applicable log, **Company Documents** or **Documents**, select the applicable folder or file.
3. From the toolbar, select **Actions**, and select **View Import Audit Log**.
The **Import Audit Log** for the selected folder or file opens. You can view and print information pertaining to the import process that created the folder or file, such as the name of the CSV or Microsoft Excel file that was imported, the date that the folder or file was created and completed, the name of the user who performed the import, and so on.

The Recycle Bin

When you delete documents, folders, or shortcuts from project/shell Documents, they are stored temporarily in the Recycle Bin. These items can be restored back to their original location. Items in the Recycle Bin remain there until you permanently delete them.

Note

If you are using a custom user mode navigator, you must add the Recycle Bin to the navigator.

Restore deleted items

Deleted documents, folders, and shortcuts that are still in the Recycle Bin can be restored back to their original locations.

Note

If you restore a folder whose parent folder has been deleted, the folder structure will be recreated. However, the other contents of the parent folder will not automatically be restored.

To restore deleted items in the Recycle Bin:

1. Select the **Recycle Bin** node from left pane.
 - To restore a single item, select it and select **Restore**.
 - To restore all items in the Recycle Bin, select **Restore All**.
2. Select **Yes** to confirm.

Delete items from the Recycle Bin

After documents, folders, or shortcuts are deleted from the Recycle Bin, they cannot be retrieved.

To permanently delete items from the Recycle Bin:

1. Select the **Recycle Bin** node in left pane and do one of the following:
 - Select the item, and select **Delete** button.
 - Select **Empty Recycle Bin** to permanently delete all items in the Recycle Bin.
2. Select **Yes** to confirm.

Index Reports

The index report utilizes the Oracle Primavera Unifier user-defined report engine. It lists content (documents, subfolders, shortcuts) within a selected folder, properties, and phase (contents may be associated with more than one phase). The index report can be generated in HTML, PDF, or CSV format.

To view an index report:

1. Select a folder in folders view of the project/shell Documents or Company Documents node.
2. From the toolbar, select **Actions**, select **Index Report**, and choose the format to display:

- **HTML Format:** Displays the report in a browser window.
- **PDF Format:** Creates a PDF file of the report.
- **CSV Format:** Creates a CSV file of the report.

View Document Manager Audit log

Actions that you take, such as uploading a file, are automatically noted on the Document Manager Audit Log in the system, whether those actions are initiated from the Unifier web application or the Unifier mobile application.

To view the Audit log:

1. Select a folder or document in the project/shell Documents or Company Documents log (or a folder in the folders view).
2. From the right pane, select the **Audit Log** tab.
3. To view additional information about an Event, select the Event, and view the information in the **Audit Details** tab located to the right of the **Audit Log** tab.

To view the **Audit Details** tab, you might need to resize the Audit Log tab and use screen split  to make adjustments.

The information displayed in **Audit Details** includes the mode of entry or change to a record and line items in the record, whether the change was processed through REST, SOAP, CSV, or reverse auto-population. This tab contains the following toolbar options:

- **Print (Export To CSV and Export to Excel)**
- **Find on Page**

Project or Shell Documents or Company Documents Attached to a Business Process

A document that is attached to a business process record maintains a link with that record. You can view the business process records to which any document is linked (permissions to view BPs apply). Because of this link, documents that are attached to BP records cannot be deleted.

Launch a Business Process from the Document Manager

A business process record can be launched directly from documents (**Documents** sub-node) within the **Document Manager** node.

For information about creating a BP record in **Document Manager**, see the *Unifier Business Process User Guide*.

View Linked Business Process Records

If a document in project/shell Documents or Company Documents has been attached to one or more business process records, an icon will appear in the BP column next to the document in the log. You can view the records to which the document is attached if you have view permissions for that BP.

To view business process records to which a document is linked:

1. In the project/shell Documents or Company Documents log, select a document.
Documents with the link icon () in the BP column are linked to BP records.
2. From the right pane, select **Linked Records**.
3. To open the BP record form, select the hyperlink for the **Record Number**.
You must have permission to view the specific BP to open the record.

View and print the business process audit log

To view a business process Audit log:

From the right pane, select the **Audit Log** tab. The Audit Log tab lists each event associated with the business process and workflow. The date and time stamp of each event reflects users' current time zone as set in their User Preferences.

To view business process Audit Details:

To view additional information about an Event, select the Event, and view the information in the **Audit Details** tab located to the right of the **Audit Log** tab. (To view the **Audit Details** tab, you might need to resize the Audit Log tab and use screen split  to make adjustments.) The details also include the user's current time zone for reference.

To print a business process Audit log:

1. On the **Audit Log** tab, select **Print** , and select **Print**.
2. In the **Print** dialog box, select **Print**.
A PDF file is created.

Unpublished Documents

When a user uploads a file from a local machine and attaches it to a business process, the document is automatically stored in the **Unpublished Documents** log as soon as the business process is sent. The link to the business process is also listed in the **Unpublished Documents** log. The **Unpublished Documents** log is an automatic repository for files that have been attached to business processes and which have not yet been published in the company or project/shell (**Company Documents** and **Documents** functional nodes).

Note

If you are using an Oracle Cloud-based deployment, the system displays a message when you choose to view or download files or attachments that have not been scanned for viruses. To continue, you must select **Yes** or **No**. If you select **Yes** and the system determines that the file is infected, the download is stopped; otherwise, the download completes successfully.

You can access the unpublished documents for the company or project/shell in the respective **Unpublished Documents** functional node.

- To access the **Unpublished Documents** log in your Company Workspace: Go to the **Company Workspace** tab, and switch to **User** mode; in the left Navigator, select **Document Manager**, and then select **Unpublished Documents**.

- To access the **Unpublished Documents** log in your project or shell: Go to the shell tab, and switch to **User** mode; in the left Navigator, select **Document Manager**, and then select **Unpublished Documents**.

Within your company or project/shell, when you select the **Unpublished Documents** functional node, the **Unpublished Documents** log opens which displays a list of unpublished documents. The following topic provides the details of the **Unpublished Documents** log.

Unpublished Documents and Link to BPs

The link to the BP allows the BP record to be reviewed, allowing the administrator to review where the document originated from. This provides a means to control the documents that are accessible in the company or project/shell **Document Manager**.

Example

A subcontractor submits a Request for Information (RFI) BP with attached documents requesting input from the architect. These attached documents can be traced back to the original BP through the link, and the documents become available in the unpublished area of the Document Manager. The administrator can then review the documents and make the decision to publish them into the project/shell or Company Documents node and where to store them, or not to publish them at all.

Note the following:

- This process applies only to business processes that support form attachments.
- Text-type BPs, such as action items or RFIs, are excluded. This is because text-type BPs, by design, can have file attachments only in comments, not to the form itself.
- Files cannot be directly uploaded to or deleted from the **Unpublished Documents** folder.
- Permissions for unpublished documents are at the node-level only. You can either see all the documents or you cannot see any. There are no document-level permissions. Folder-level permissions are not applicable, as there are no folders in **Unpublished Documents**.
- Drawing files are handled with the base file listed and the associated reference files bundled with it, similar to a zip file.

Unpublished Documents Log

The documents in the **Unpublished Documents** log have the following toolbars:

- **Publish** (): To publish a document.
When you select **Publish**, the **Publish -Select Destination Folder** window opens. The function of Publish is similar to the Move option in Document Manager (DM). In the **Publish -Select Destination Folder** window you can:
 - Select the document phase (**All Phases** or **Current Phase**) from the drop-down list field on top to load pertinent folders from Document Manager into the space below.
 - Use the **Find on Page** link to open a row under the **Name** block and search for a particular folder from the Document Manager.
 - Use the scroll bar to parse through all folders from the selected phase so you can browse and select a destination folder for the document publication.
 - Include comments by selecting the **Include Comments** option.
 - Ensure that if a file with the same name exists in the Document Manager, it gets revised by the selected file in Unpublished Documents by selecting the **Revise automatically if file with same name exists** option.

- Discard your changes by selecting **Cancel**.
- Publish the selected file to the chosen folder in the **Documents** sub-node under **Document Manager** node, by selecting **Publish**. This option is available only after you have selected a destination folder from the available list. When you select **Publish**, the **Publish Status** window opens. This window displays a grid with the following columns:
 - * No
 - * File Name
 - * Title
 - * Status
 - * Message

If you select more than one file and select Publish, the **Publish -Select Destination Folder** window opens and the names of all the selected files will be listed at top of the window.

- **Download** ().
- **Search** (Searching Content.
- **Find on Page** (Finding on Page.

The documents in the **Unpublished Documents** log includes multiple columns, such as File Name, Record Number, and so on.

For each record, the **Unpublished Documents** log displays the following tabs in the right pane:

- **Properties:** Under General, this tab displays the following read-only information about the selected file:
 - File Name: To change the file name, access **Properties** from the *gear menu* ().
 - Title
 - Size
 - Issue Date
 - Revision No.
 - Publication No.
 - Publication Date
- **Linked Record:** To see records linked from the same, or different, business process log. The Linked Record tab displays the Record Number, Name, Title, Status, and Upload Date of the linked records
- **References:** This tab appears only if the selected file has associated references.

You can use **Expand** () to expand the right pane.

Each record has a *gear menu* () that lets you perform the following actions:

- **Open:** To open the selected document in viewer.

- **Open in AutoVue:** To open the selected document in AutoVue viewer.
- **Properties:** To review the document properties and change the file name.
- **Publish**
- **Download**

Publishing of Documents Automatically

By default, files attached to business processes are placed in the Unpublished Documents folder in the Document Manager. A Publish Path data element can be designed in business processes in uDesigner to specify the automatic publishing of documents to a specified path and override the default. For Document-type business processes With Folder Structure, the designer can specify that a configured folder path be appended to the folder structure. This appended path is based on the path configured in the **uuu_dm_publish_path** data element on the business process form, and the selection of the Append Line Items Folder Structure to AutoPublish Path option, which is documented in the *Unifier uDesigner User Guide*.

The automatic document publication folder path is built based on the values of data elements specified in the path defined in the data element **uuu_dm_publish_path** (Publish Path) in uDesigner. To help you understand why automatic publishing does or does not occur and the results of automatic publication, these are the rules for the automatic publication of documents:

- The data element **uuu_dm_publish_path** is used in business process design to specify the folder path into which the file should be published in the Document Manager. This applies to Company, project, or shell business processes. A formula is configured to define the value of the path to use when automatically publishing documents. On the Creation Step of the Workflow-type business process, the system evaluates, or replaces, the "record_no" in the data element "uuu_dm_publish_path" or in the data element "uuu_dm_record_info_path," when the "record_no" is used directly as part of formula, as shown in the example below. This condition (evaluation or replacement) does not apply to the "Advanced Formula" type data element.

Example:

Suppose 'uuu_dm_publish_path' and 'title' are defined as formula.

=> uuu_dm_publish_path = firstName + record_no + title

=> title = subject + record_no

uuu_dm_publish_path would be evaluated as 'firstName + record_no + subject' ('record_no' in data element 'title' is ignored)

- To use the automatic publishing feature, you must know (from your Administrator) which data elements comprise the publish path that will populate the Publish Path field. The values in this field are used to create and populate the folders in the Document Manager with the business process attachment.
- If you do not have permissions granted to upload documents to the Document Manager, the file is placed in the Unpublished Documents folder.
- If there is no folder defined or the path is invalid, the file will be placed in the Unpublished Documents folder.
- If the folder specified in the defined path does not exist in the Document Manager as defined by the data element **uuu_dm_publish_path** (Publish Path), it should be created automatically and inherit rights from the parent folder, (if you have permission to create folders), otherwise the file will be placed in the Unpublished Documents folder.
- If the file exists in target file, the file shall be published as a revision.

- The owner of the automatically published document is the owner of the business process that published it.
- The folders created and used for automatic publication are based on the values of the data elements specified in the **uuu_dm_publish_path** data element (Publish Path). For example, if the publication path contains the data elements State and City, and the values for those data elements are Iowa and Rapid City, the folder structure will be Documents/Iowa/Rapid City.
- The publication path displays in the Publish Path data element on the business process form. If the path is shown as /, the documents will publish to the Documents folder. Usually, when the / to shows in the Publish Path field, this indicates that you have no values in the fields for the data elements configured as the publication path. Be sure that you have values in the fields that are part of the publication path.
- If a business process has a publication path configured on the upper form and another on a line item, and the path on the line item is invalid, the attachment will be published to the path designated on the upper form. If the paths on the line item and the upper form are both invalid, the attachment is published to the Unpublished Documents folder. The exception is that in a non-workflow business process, if the publication path configured on the line item is invalid, the attached document is not published in any folder.
- When a document is published from a business process (BP) record, the system compares the data elements (DEs) in the BP record with the DEs in the Document Attribute Form and where the DEs match, the system copies the values from one DE to the other DE.
- If the attachment is on the Upper Form, the system matches the DEs on the Upper Form with the DEs on the Document Attribute Form and updates the values.
- If the attachment is on the Detail form, the system compares the DEs on the Detail and the Upper Form. If a DE exists on both the Upper Form and the Detail form, the system only matches the value of the DE that is on the Detail form. This lets you override the "default" value that exists on the Upper Form.
- The system lets you selectively restrict attachments from getting published, as explained below:
 - For Document-type BPs: Open the **Document Review** window and deselect the **Publish** checkbox for the attachments that you do not want published.
 - For non-Documents-type BPs: Open the **Document Review** window, or the respective attachment log (record or Line Item) and deselect the **Publish** checkbox for the attachments that you do not want published.
- On a Document-type BP, when a value is added to **uuu_revision_no** or **uuu_title** or **uuu_issue_date**, it will get respectively copied over to **uuu_file_revision_no** or **uuu_file_title** or **uuu_file_issue_date** when the document is published to **Document Manager**.
- After a document that has been attached to a business process is published, it will not get published again even if you have the **uuu_dm_publish_path** defined in consecutive forms in your workflow.
- If you are attaching a document to your business process by selecting the document from Document Manager, the document will not get published again from your business process because it is already published in Document Manager.

Opening Unpublished Documents

To open and view an unpublished document:

1. In the **Unpublished Documents** log select a document.
2. Select the *gear menu* () , and select **Open** to open a window that shows the unpublished document and any comments that are related to that unpublished document.

Opening Linked BP Record

To open the BP record to which an unpublished document is linked:

1. Select the document in the **Unpublished Documents** log.
2. From the properties pane on the right, select the **Linked Record** tab.
3. Select the record number of the BP record you want to view to open a new window which contains the following details:
 - BP details, on the left pane.
 - Properties of the BP, on the right pane.
The properties are detailed in the following tabs:
 - **Attachments** tab
 - **Comments** tab
 - **Linked Records** tab
 - **Workflow Progress** tab
 - **Audit Log** tab
 - **Reference Records** tab

Viewing Unpublished Document Properties

To view the properties of an unpublished document, select a document in the **Unpublished Documents** log and the **Properties** tab will display on the right.

Viewing Unpublished Document Comments

You can view any comments that are added to a document from the BP. To view comments or markups on an unpublished document:

1. Select a document in the **Unpublished Documents** log, and select the **Linked Record** tab.
2. Select the record number of the associated BP record to open a BP window.
3. On the right, under the **Attachments** tab, select the *gear menu* () , and select **Review**. An Attachments window will open. Comments may be viewed in the log on the right.

Downloading Unpublished Documents

To download an unpublished document, select a document in the **Unpublished Documents** log, and select **Download**, from the toolbar.

Deleting Unpublished Documents

If a document is linked to a BP, the document cannot be deleted directly from **Unpublished Documents** (or from the **Company Documents** and **Documents** logs).

A document is stored in the **Unpublished Documents** log automatically and as soon as a document is directly uploaded from the local machine, or network, and attached to a business process.

A document can be deleted from the **Unpublished Documents** log:

- If the uploaded document is deleted from the BP during the workflow, or
- If the document is deleted when the BP is in **Draft** mode, in case of a non-workflow BP.

You cannot delete a document:

- If the BP has already completed the workflow, or
- If the document has already been moved by an administrator to the Published Documents folder.

Note

You can create a special folder in project/shell Documents for documents that you want to publish and limit access to those documents, but the documents remain traceable.

Renaming Unpublished Documents

You can rename an unpublished document, if your administrator has enabled the document name field as an editable and required field. When you rename an unpublished document, the change is reflected everywhere the unpublished document is referenced or linked to. The name is also updated in formulas that use file name in its calculations.

Note

You cannot change the extension of a file, you can only rename the file.

To rename an unpublished document:

1. From the **Unpublished Document** log, select an unpublished document.
2. On the right pane, in the **Properties** tab, edit the **File Name** field with a new file name and select **Save**.

Searching for and Sorting Unpublished Documents

To search for an unpublished document:

1. Select **Search** in the **Unpublished Documents** log toolbar to open the **Search** window bar, and from the field on the right select a category that you want to search for. For example, select **File Name**. These categories that are listed correspond to the column headings in the **Unpublished Document** log (**File Name**, **Content**, **File Type**, **Record Number**, **Rev. No.**, **Title**, **Publication Date**, and **Issue Date**).

2. In the left field, enter a value that corresponds to the category that you selected in the right field. For example, if you selected **File Name**, enter the name of the file.
3. Select **Search** in the **Search** window. A new **Search** window will open which has two panes.
The right pane lists the items that correspond to your search, in columns. The **Search** window toolbar options are:

- **Publish**
- **Download**
- **Switch to Tile View / Switch to List View**
- **Find on Page**

The left pane of the **Search** window lets you sort or filter unpublished documents. In the left pane, you can select options to sort or filter unpublished documents based on results from your search.

The default options are as follows:

- **Group By** - Publication Date
 - **Format** - Drawing Files, PDF, Word, Excel, PowerPoint, Images, Text, Others
 - **Publication Date** - Last 7 days, Last 15 days, Last 30 days
 - **Bluebeam Session Status** - Active, Finalized, Archived, Deleted in Bluebeam
4. Follow the prompts to complete your search. You can select **Change** to open the **Search** window bar and change your search parameters.

Note

This search option can be customized through uDesigner. If a designer has imported Document Manager attribute forms, the search criteria can also be customized. This means that the fields on which you can search may differ from the above list.

Publishing Unpublished Documents to Company or Project/Shell

Publishing a document (from the **Unpublished Documents** log) to the **Company Documents** log or the project/shell **Documents** log makes the document available to the team members, with the full functionality made available in that log or functional node.

Note

Only the administrator other users with full access to the **Document Manager** can publish documents from the **Unpublished Documents** functional node (company or project/shell) to the **Company Documents** log or the project/shell **Documents** log.

To publish an unpublished document to the **Company Documents** log or the project/shell **Documents** log:

1. Select the document in the **Unpublished Documents** log, select the *gear menu* () , and select **Publish**.

 Tip

To publish multiple documents, select one or more documents and from the toolbar, select **Publish**. A new **Publish** window opens. If you select documents with the same name to publish, the **Duplicate Files** window opens, which lets you remove or delete the duplicate files.

2. Select a destination folder to publish the document or documents to.
 - You may select **Include Comments** if you want to include any attached comments with the document.
 - **Revise automatically if the file already exists** is selected by default. Deselect it if you do not want to revise existing documents automatically. If you deselect this, the new version of the document is not copied into the Document Manager.
3. Select **Publish** to finalize.

The Publish Status window opens and displays the status of the documents as they are published. The window displays the following:

 - **No.**
 - **File Name**
 - **Title**
 - **Status**
 - **Message**
4. Select **OK** to close this window.

 Note

The user who publishes the document becomes the owner. In the **Company Documents** log or the project/shell **Documents** log, select the document, and select the **Permissions** tab to grant the proper permissions to the team members who need it. You may want to select the **Properties** tab to review properties and update them if necessary.

Portfolio Manager

The Portfolio Manager is where the budget forecast planners in your company can gather cost and schedule information on projects (both planned and in execution) and analyze "what if" scenarios. These scenarios are used to propose an optimal mix of projects for a portfolio, based on available budget targets and the strategic goals of the company.

As a planner, you can create a portfolio for a specific "planning horizon" (for example, from 2014 through 2020) and then create multiple scenarios in that portfolio. Each scenario can use forecast numbers and actuals, as well as schedule dates, for both planned and active projects in a specific shell type across a hierarchy in the company.

You create these scenarios on sheets, one for each scenario. The scenario sheets can pull in the following data from any shell type in a hierarchy:

- Project information from the Shell Attribute Form or single-record business process
- Project start and end dates from the Shell Attribute Form or single-record business process

- Cash flow data (both forecasted and actual) from each project's Cost Manager

With this data, you can forecast costs over a specific time period (called a "period structure"). You can then manipulate scenarios by:

- Including or excluding projects
- Pushing start dates for planned projects into the future, which automatically updates end dates for Standard Planning Periods (not for Financial Periods)
- Modifying project end dates to change the project's duration
- Proposing different cash flow distribution numbers by manually editing the cash flow columns
- Negotiating proposed budgets with project managers

After these scenario analyses have been completed, the best (or several best) scenario(s) can be sent to the executive decision makers for approval.

After a scenario has been approved, the system:

- Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.
- Updates each project's original budget numbers with the proposed numbers on the approved scenario.
- Updates each project's monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
- Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
- Locks the budget and cash flow numbers to prevent any further changes.

View and Open Portfolios

Portfolios are grouped by their portfolio type. Scenarios are grouped under each portfolio.

To view portfolios:

1. Go to the shell tab where the Portfolio Manager resides and switch to **User** mode.
2. In the left Navigator, select **Portfolio Manager**. The system expands the navigator to show the portfolio types currently loaded into the system.
3. In the left Navigator, select the portfolio type that contains the portfolio you want to view. The system displays the portfolios for this type in the right pane. The portfolio type log contains the following *toolbar* options:
 - **Create:** To create a new portfolio manager sheet, or to create a new portfolio manager sheet for the next planning period. When you select an existing portfolio, select **Create**, and then select **Portfolio** or **Plan for next period**, the **Add Portfolio** window opens which has two blocks: the general block and the options block. For each block, enter the values in the fields and select **Save**.
 - **Delete:** To delete a selected portfolio in the portfolio type log.
 - **Refresh:** To refresh the list of portfolios in the portfolio type log.
 - **Print:** To print the list of portfolios in the portfolio type log or export to CSV or Excel.

- **Search:** To open the **Search** block and search for a particular portfolio in the portfolio type log. Use the following toolbars (the icons on the right corner) to dock the **Search** block, clear values in the search fields, apply the search criteria, or close the **Search** block:
 - **Dock Right**
 - **Clear**
 - **Apply**
 - **Close**
- **Find on Page:** To open a row in the list of portfolios in the portfolio type log and find items according to the column headings. See the portfolio type log contains the following columns, below. To close the row, select the **Find on Page** option again.
- **View Help menu:** To access the portfolio type help (not available) or the portfolio type training (User Productivity Kit).

The portfolio type log contains the following *columns*:

- **Attachments**
- **Portfolio Name**
- **Planning Period**
- **Creation Date**
- **Creator**

The portfolio type log contains the **Properties** pane (the right pane) that appears when you select a portfolio. The **Properties** pane, similar to the **Properties** window (accessed by the **Properties** toolbar option available in an opened portfolio), enables you to access the following information:

- **Portfolio Name**
- **Planning Period**
- **Creation Date**
- **Creator**
- **Planner Comments**
- **Decimal Places**

To open a portfolio:

1. Go to the shell tab where the Portfolio Manager resides, and switch to **User** mode.
2. In the left Navigator, select **Portfolio Manager**. The system expands the navigator to show the portfolio types currently loaded.
3. In the left Navigator, select the portfolio type that contains the portfolio you want to open. The system displays the portfolios for this type in the right pane.
4. In the portfolio type log, select a portfolio, select the *gear menu* () , and select **Open** to open the portfolio details page or pop-up to either:
 - The scenario that has been marked for sharing
 - The most recently updated scenario

Within either of the scenarios, you are presented with two tabs (for example, a **Budget Planning** tab and a **Dashboard** tab).

In this window, you can select the plus option (the plus symbol + next to the scenario) to open the **Add Scenario** window, add the title for your new scenario, add projects, and when finished, select **Save** to add your new scenario. At the same level as the tabs, you have the option to:

- Approve a scenario (or tab)
- Share or unshare a scenario (or tab)
- Duplicate the information of a scenario (or tab)

In the default tab of the scenario that has been marked for sharing, or the most recently updated scenario, you can use the *toolbar* options to:

- Select projects
- Switch from the Grid View (default) to the Gantt Chart View

Note

If **Begin calculations at end of curve** is selected for a Forecast Curve and **Display financial period breakdown of Actuals** is selected for the portfolio configuration, the Actuals information displayed in a Grid View or Gantt Chart View does not shift if the Start Date is modified.

- Change the view of the log by selecting with columns to be presented on the log
- Edit the view of the log
- Print the log items or export the items to a CSV or Excel file
- Refresh the list log items to get the latest, or the most up-to-date
- Access the Properties pane of the portfolio
- Collapse or expand all columns groups (you can group monthly reports into yearly groups)
- Find items on the log

In each row, you can:

- Select the *gear menu* () , and remove, or unlink, a project from the scenario.
- Select a project number cell to open the project.
- See the following amounts, for each project, after the split at the bottom of the log:
 - **Total**
 - **Target**
 - **Difference**
 - **Current Project Data**
- The number of projects appear at the very end of the screen.

Additional information

When a cell value in the Project Portfolio Manager (PPM) Sheet is updated for a current project data, the system places a **Warning** symbol (a triangle with an exclamation mark in the middle) in the cell to indicate that the cell value differs from the current project data.

When you conduct a **Find on Page** in the log view (grid), if the value of an item in your filter has no match, the bottom part of the grid (after the split at the bottom of the log) will remain as

it was, and it will not change from what it was prior to conducting the **Find on Page**. The bottom part of the grid will change only when the value of an item in your filter has a match.

When exporting your grid to a file, the column groups are exported, too.

Read-only cells in a grid cannot be deleted. Note that the read-only cells are highlighted gray.

Create or Modify a Portfolio

You can create a portfolio "from scratch," or you can create one using a portfolio that has been approved for the current planning period.

To create a portfolio, you must have Create or Full Access permission.

To create a portfolio:

1. Go to the shell tab, and switch to **User** mode.

 Note

Portfolios can only be created at the project level, not at the company level.

2. In the left Navigator, select **Portfolio Manager**, and then select the portfolio type that contains the portfolio you want to view. The system displays the portfolios for this type in the right pane.
3. In the portfolio type log, select **Create** to create a portfolio manager sheet, or to create a portfolio manager sheet for the next planning period.
When you select an existing portfolio, select **Create**, and then select **Portfolio** or **Plan for next period**, the **Add Portfolio** window opens which has two blocks: the general block and the Options block. For each block, enter the values in the fields, and select **Save**.

After you create a portfolio, the system displays the portfolio name in the right pane and automatically creates an initial scenario sheet called Scenario 1. On this sheet, the system displays the projects that:

- Are included in the scenario, if the projects are configured to be automatically added
- Can be included on the scenario, if the projects are configured to be manually added.

The project records for the scenario sheet are extracted from the database using a query that your Administrator created when the portfolio was configured. Whenever you open a portfolio, the system re-runs the query and adds or removes projects from the scenario depending on whether the project matches the query criteria. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

In this field:	Do this:
Portfolio Name	Enter a name for the portfolio you are creating.
Planning Period	Select the year for which you want to analyze the data in this scenario.
Creation Date	This field shows the current date.
Creator	This field shows the name of the person creating the portfolio.

In the Options block:	Do this:
Use Decimal Places	To specify the number of decimal places that the column data should display, select this option.
Use 1000 Separator (,)	If you want the data to be formatted with a separator (for example, 1,000, not 1000), select this checkbox.
Negative Number Format	Specify how negative values will be displayed on the sheet: with a negative sign, or in parentheses.
Use Currency Decimal Precision	To use the number of decimals used within areas such as Base Currency, Project Currency, and Transaction Currency, select this option.

Create a portfolio from an approved or shared portfolio

Rather than create a completely new portfolio for your next planning period, you can save time and effort by "copying" a portfolio that has already been shared or approved for the current planning period.

To create a portfolio from an approved one:

1. Open the Portfolio Manager log and select the portfolio you want to copy for the new planning period.
2. From the **File** menu, choose **Plan** for next period. The Portfolio Properties window opens. The General tab of the Properties window will show the name of the portfolio you selected as the new portfolio's name. In addition, the Planning Period field will display that portfolio's next planning period by default.
3. In the **Name** field, change the portfolio name.
4. If necessary, you can change the planning period by selecting the drop-down list beside the Planning Period field.

Note

The combination of the portfolio name and the planning period must be unique.

5. If necessary, you can change the numeric format on the **Options** tab.
6. Select **OK**.
The system displays the portfolio name in the right pane and automatically creates an initial scenario sheet called Scenario 1. This scenario sheet will contain all the projects that were present in the portfolio you copied. These projects will show the data that was current for each project at the time the portfolio was copied, based on the matching monthly and yearly cash flow columns. For the new scenarios, the system will calculate the new totals and then calculate the variances to show the differences.

Note

If the original portfolio contained monthly numbers and the new portfolio contains only a year column, the monthly numbers will be consolidated for the year. Conversely, if a year column is being copied into a portfolio with monthly columns, the number will be divided into monthly columns.

Sort a Portfolio Log

You can sort the portfolio log by portfolio name into ascending or descending alphanumeric order. To do so, select the triangle icon on the right side of the Portfolio Name column.

Find, Sort, and Delete a Portfolio

Find a Portfolio

For information on searching for a portfolio, see the *Unifier General User Guide*.

Sort a Portfolio

You can sort the portfolio log by portfolio name into ascending or descending alphanumeric order. To do so, select the triangle icon on the right side of the Portfolio Name column.

Delete a Portfolio

1. Open the Portfolio Manager log.
2. Select the portfolio(s) you want to delete.
3. From the toolbar, select **Delete**.

About Scenario Sheets

As the budget forecast planner, you can create scenarios to plan an optimal portfolio of projects for the company, based on available budget targets and strategic goals.

Portfolio management entails collaboration and negotiation between you, as the budget forecaster, and the project managers in your company. At their respective project levels, project managers maintain project information and create cash flow budgets and projections in the Cost Manager.

In the Portfolio Manager, on the scenario sheets you create, the system collects the budget and projection numbers from the projects' Cost Managers, as well as project start and end dates from the project information.

During a scenario analysis, you can:

1. Apply regional budget targets
2. Group the projects in the scenario according to project characteristics
3. Sort and filter the rows of project data and analyze the summary totals
4. Accept the project managers' budget numbers or propose new numbers
5. Accept the schedule dates, or remove or postpone planned projects
6. Create additional scenarios to reflect other possible forecasts

Note

- The numbers you propose in a scenario will *not* affect a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.
- For Standard Planning Periods only: If **Begin calculations at end of curve** is selected for a Forecast Curve and **Display financial period breakdown of Actuals** is selected for the portfolio configuration, the Actuals information does not shift if the Start Date is modified. Otherwise, modifying the Start Date in either view automatically adjusts the End Date and it adjusts the cost data for monthly and yearly planning periods.

During this analysis, you will likely be in touch with project managers to negotiate these numbers and dates until you reach agreement.

Project managers will not see the changes you make on the scenario sheet. Instead, the project managers must create a "shared" type of portfolio budget curve. This curve shows your proposed numbers for the project. The project manager can include this curve on the cost worksheet, along with the forecast budget, or any other budget curve, to see the difference between the project's numbers and your proposed budget numbers.

For them to see the curve, you must share the scenario (see [Share a Scenario](#)).

For more information about the portfolio budget curve, refer to the *Unifier Modules Setup Administration Guide* and the *Unifier Managers User Guide*.

After you have completed a budget forecast analysis using these scenarios, you can send the best (or several best) scenario(s) to the executive decision makers for approval by "sharing" the scenario.

Gantt View

Gantt Chart View shows you how capital is used over time. It lets you quickly adjust schedules to achieve a better combination of projects within schedule and target. You can access a Gantt view of any scenario in which one or more projects is selected for budget planning. From the toolbar, select **Gantt** to display a Gantt distribution of proposed total over time on the grid. You can open the dialog of select projects and add projects to the Gantt view.

Make schedule adjustments by moving Gantt bars and adjusting the project schedule. You can view the target and difference rows simultaneously. You can also change start and end dates, and the Gantt view will update accordingly. Based on changes that you make, the system updates Total fields, such as Year and Proposed Total, so that you can immediately see the impact. Select **Save** or **Cancel** after making changes.

Note

In the case of a standard planning period and if you have chosen some years as monthly, all Proposal Distribution columns will be displayed in months.

Portfolio Dashboard

The portfolio dashboard lets you gather insights by looking at visual representations of Risk vs. Benefit, Investment vs. Return on Investment (ROI), and so forth. The dashboard displays all

project data that has been selected in Budget Planning of the current scenario. Select **Dashboard** at the top of the scenario sheet to view the portfolio dashboard. A bubble chart displays alongside six fields with drop-down menus: Chart Type, X-Axis, Y-Axis, Bubble Size, Shape, and Color. Use the drop-down menus to select values for each field. A bubble color legend is displayed below the chart.

Select **Reset** to clear all selections.

Select **Apply** to configure the chart based on your selections.

Select **Update** to apply your configuration to the chart. The chart configuration saves upon selecting Update.

Note

The system will not display the bubble chart legends when the number of projects exceed 100 (one hundred) items. This is the limitation of the technology framework.

Open a Scenario Sheet

On the Portfolio Manager log, double-click the portfolio that contains the sheet you want to open.

The system displays one of these scenario sheets:

- The scenario sheet marked "shared"
- The scenario sheet that was last updated, if there is no shared scenario

You can resize the column that is available in the left of the split. The fields, in the left side of the split, will be editable along with the fields in the right side of the split.

In the Project Portfolio Manager (PPM) scenario sheet, regardless of their position (left or right splits), the following are considered special columns and are read-only:

- Project Name
- Project Number
- Project State

These fields are read-only because the option "Enable Column Editing" (in the Column Properties window) is not selected.

For the "Start Date" column, if the Project State is in execution, the column will not be editable in the scenario sheet, whether placed in right or left side of the split.

For the "Start Date" column, if the Project state is not in execution, because the field is editable in the right side of the split, if the column is moved to left it can be edited in that scenario sheet.

The read-only columns will have a background color.

For a selected cell, the corresponding row and column header, will be highlighted in color, with border.

Monthly Breakdown of Actuals Values in Scenario Sheet

For the projects that are in-progress, where Forecast Curve is used (not Baseline Curve), if the Administrator has selected to display the monthly breakdown of Actuals (Display monthly breakdown of Actuals option in the portfolio Configuration window), then:

- Within the Portfolio Manager for the current year, all months prior to the current month will display the corresponding value from the Actuals curve, and the fields will be read-only.
- The current month will display the value from the Forecast, or the value from Actuals curve. After the Actuals value is displayed, the cell becomes read-only.

Similarly, the **Pre-Actuals** (in the Project Portfolio Manager) will contain the total, from the Actuals curve, for all previous years if the Actuals source is defined.

Example

For project City4, the user has defined Actuals source (in the Configuration window of the portfolio) for period 2017.

For period between 1/1/16 to 12/1/17, the total Actuals amount is \$7200.

The Actuals total for period 1/1/16 to 12/16 is \$5806.45.

When the user opens the Project Portfolio Manager for period 2017, the "Pre-Actuals" column will show the total amount from Actuals for previous year (1/1/16 to 12/1/16), and the Cash flow Curve displays a steady incline.

Considering it is May 2017:

When the Actuals source is defined (in project City4) for the columns from Jan 2017 to April 2017, when the selected tab in the Portfolio Manager is not shared or is not approved, the screen displays the corresponding value (read-only) that is coming from the Actuals curve in the Cashflow.

For the month of May 2017, the corresponding values displayed for City4 will be editable, or read-only, based on the Period Close Settings fields, defined in the Cash flow properties ("Enable auto snapshot on").

For the current year and current month, in the Portfolio Manager, the same logic applies as for the Forecast Curve in the Cashflow.

Within the Portfolio Manager for the current year, for the current month, the logic will follow the same logic as for the forecast curve in the Cash flow (Cash flow by Forecast - CBS).

If the **Enable auto snapshot on** option is checked, then:

- If the current date is before the date defined, the value shown in Portfolio Manager (for the current month) will show the value from the Forecast Curve.
- If **Replace current period forecast with Actual on cut off date** (in the Forecast options) is checked, the value shown in the Portfolio Manager (for the current month) will be the value from the Forecast curve.
- If the **Allow edit of current period forecast until replacement by Actuals** is checked, the value shown in the Portfolio Manager (for the current month) will be editable; otherwise, it will be read-only.
- If **Replace current period forecast with Actual on cut off date** (in the Forecast options) is not checked, the value shown in the Portfolio Manager (for the current month) will be the value from the Actuals curve.
- If the current date is on, or after, the date defined, the value shown in the Portfolio Manager (for the current month) will show value from the Actuals curve and will be read-only.

If the "Enable auto snapshot on" option is not checked, the value shown in the Portfolio Manager (for the current month) will be from the Actuals curve and will be read-only.

When the user shares the scenario in the Portfolio Manager, only the "ALL values of Forecast" will be shared.

If the Project Portfolio Manager (PPM) is unlinked, then for those scenarios the Actuals will be read-only for the previous months.

For approved scenarios, the monthly Actuals are displayed as read-only only when the PPM is linked.

Unless the Cash flow is refreshed (even after the checkbox is selected), the Actuals will not be displayed.

Additional information

Approved/shared date will reflect actuals spread data only if the project is unlinked.

For the existing PPM Sheet, for prior years (for example, 2014), the actual data is not displayed for yearly columns (for example, 2015 or 2016).

As the cash flow is refreshed, the current month forecast data will become non-editable in PPM even if the project is not linked.

As the cash flow is refreshed, the current month and the previous month baseline data will become non-editable in PPM even if the project is not linked.

Multiple Forecast Curve

If there are multiple forecast curves defined within a project, with different option setting, this system displays a warning message (through a red triangle) in the current month cell when you hover over. In this case:

- For the future months, the scenario sheet shows cumulative values on forecast. For the prior months, the scenario sheet shows cumulative values for actuals.
- For current month, the scenario sheet shows the cumulative actuals values which are linked to forecast as read-only, always.

For support for monthly actuals, in case of consistent settings in multiple forecast curves, the behavior for the current, prior, and future months will be determined according to the existing functionality.

Project Portfolio Manager (PPM)

Whether linked, or unlinked, in the scenario sheet, the approved and shared data actuals spread are displayed in the Cashflow.

For the current month forecast data, whether the PPM is linked or unlinked, the system retains the forecast settings in the Cashflow.

Yearly PPM

In an existing PPM scenario sheet, for prior years actuals, data is seen as read-only for yearly columns if the checkbox to show monthly actuals is selected in the PPM configuration.

The current and future years will be determined according to the existing functionality.

View a Scenario Sheet's Properties

To view a scenario sheet's properties, from the toolbar, select **Menu Options** (), and select **Properties**. The Properties will show you the following information:

- Portfolio name
- Planning period for the portfolio analysis
- Date the portfolio was created
- Any other fields of information that were added to the Portfolio Manager form

Unlink or Link Projects

When you create a scenario, the system populates the sheet with all the projects that have met the criteria for inclusion on the sheet. (These criteria were created in a query by your administrator when the Portfolio Manager was configured.) This is a dynamic process that occurs whenever you open a scenario sheet. The projects that appear on the sheet will fluctuate, depending on whether they still meet the criteria for inclusion. For example, a project that was previously on the sheet may be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

According to the configuration your administrator created for the Portfolio Manager, all the projects on the scenario sheet will be automatically either linked or unlinked when you first open the scenario sheet.

- If they are linked, the data on the scenario sheet is linked to the project data and is updated every time you open the sheet. Any new project that is added to the sheet will also be linked.
- If they are unlinked, the data on the scenario sheet is not linked to the project data and will not be updated by changes in the project data. Any new project that is added to the sheet will also be unlinked.

You can link and unlink one or multiple projects.

To link a project on the scenario sheet to current project data:

1. Select the project row(s) you want to link.
2. Select the *gear menu* () next to one of the selected rows, and select **Link**, or select the cell in the **Linked** column of that row. The system will display a warning that any numbers you changed on the sheet will be lost if the project is linked. When the project is linked, you will see a link icon in the **Linked** column beside the project(s) name(s).
3. Select **Save**.

To unlink a project from the scenario sheet:

1. Select the project row(s) you want to unlink.
2. Select the *gear menu* () next to one of the selected rows, and select **Unlink**, or select the cell in the **Linked** column of that row. When the project is unlinked, the system will delete the link icon in the **Linked** column beside the project(s) name(s).
3. Select **Save**.
You can also unlink a project by editing any cell in the row. After you start editing, the system will automatically unlink the project from the project data.

Edit Numbers on a Sheet

A primary function of scenario sheets is to make it easy for you to modify numbers and see the resulting budget analysis quickly. You can edit the following numbers on the scenario sheet:

- Cash flow projections
- Targets for cash flows and numeric columns
- Start and end dates for planned projects

When you edit any of these numbers, the system dynamically updates totals and calculates the differences between target numbers and those totals; however, it does NOT change a project's live data. Your proposed numbers are stored only in the Portfolio Manager and will not affect live project data until a scenario has been approved by your company management.

 Note

When you edit numbers in any project row, the system automatically unlinks that project row from the project data.

To edit numbers on the sheet:

1. Double-click the cell containing the number you want to change. The cell becomes editable.

 Note

If any yearly projections have been broken down into months, you must make your edits in the month cells, not the yearly total.

2. Enter the change.
3. Press the **Enter** key on your keyboard, or press the Tab key to move to the next editable cell in the row.
The system updates the values in the Total and Difference rows for this column and flags the cell to indicate that there is a discrepancy between the number you entered and the project data.

 Note

To leave a cell without saving your changes, press the ESC key on your keyboard. The system restores the original numbers to the cell.

4. Select **Save All**.

You cannot edit:

- Project name
- Number
- Status
- Location

Drill Down to Project Data

During the planning cycle, you might need quick access to project data to view project characteristics, schedule activities, cost data, cash flow data, and other information. In addition, you might need to update some of this data as you are working on a scenario. For this purpose, the project names on a scenario sheet are hyperlinked to the project. If you have permissions, you can open the project's landing page from the scenario sheet and view or edit data directly in the project.

To drill down to project data:

On the scenario sheet, select the hyperlinked project name. The system opens the project landing page in a new window. From this page, you can navigate to project data and view or edit it directly.

The scenario sheet remains open in a separate window so that you can easily work on both the project data and the scenario sheet at the same time.

Additional Information

If a Drill Down dashboard (Table or Grid) is set to show data from the *current shell*, when you create a report of your records, the report will contain all the pertinent records as hyperlinks, which can take you to the details of that record.

If a Drill Down dashboard (Table or Grid) is set to show data from *sub-shells*, when you create a report of your records, the report will contain all the pertinent records without any hyperlinks, which is by design.

Change Start Dates

You can change the start dates of planned projects, but not those in execution. When you change a start date, the system shifts the end date to preserve the project duration and also shifts the cash flow numbers (excluding pre-actuals) left or right to preserve the cash flow distribution.

To change a start date:

1. Double-click the date in the **Start Date** column. The system displays a calendar.
2. Choose the new date from the calendar.
The system shifts the end date and the cash flow numbers to reflect the change.

How the System Distributes Cash Flow

The system stores all cash flow amounts by month in the database. The logic that the system uses to distribute cash flow dollars is rendered in monthly allocations and presented as follows:

- If you move the start date backwards by (for example) three months, the system will move all the cash flow amounts (excluding the pre-actuals column) left by three months and display a zero dollar amount in the last three month columns for that year. Amounts from the following fiscal year will not move left.
- If you move a start date forward by three months, the system will move all the cash flow amounts (excluding the pre-actuals column) right by three months and display a zero dollar amount in the first three month columns. The cash flow amounts will continue to move forward in time, replacing the values of the next three months with the values of the past three months. If the cash flows through multiple years, the total for the next year will increase by the three months' amount, and the monthly cash flow for the last three months

of the previous year will replace the new year's first three months. The rest of the new year's monthly values will move forward three columns.

Change Cash Flow Amounts

You can change the cash flow amounts of any project on the sheet, planned or in execution. When you change a number in the cash flow amounts, the system unlinks the project from the live project data.

To change a cash flow amount:

1. Double-click the cell that contains the amount you want to change.
2. Enter your change, and press **Enter**.
The project's **Total** amount and the year's total amount increases or decreases by the amount you entered. The system calculates the difference, indicates the edited column amounts in italics, and changes the color of the text in the cell.

Create and Manage Views on a Scenario Sheet

To make viewing information easier on either the scenario sheet or the project candidate list, you can create views that show relevant cash flow columns.

To create a view:

1. Select **View**, and select **Create New View**. The New View window opens.
2. In the **Save View As** field, enter a name for the view.
3. Complete the **Columns** tab to determine which columns will be visible in this view.
 - a. In the **Columns** tab, choose columns from the Available Columns list, and select **Move** to add columns to the Selected Columns list, or select the **Move All** double arrow to move all available columns to the Selected Columns list.
 - b. You can remove columns from the Selected Columns list by selecting columns and selecting **Remove** or **Remove All**.
4. Complete the **Filters** tab. See [Filter the Scenario Sheet](#).
5. Complete the **Group By** tab. See [Group the Data on a Scenario Sheet](#).
6. Complete the **Sort By** tab. See [Sort the Data on a Scenario Sheet](#).
7. When finished, select **Save**.

Note

Avoid defining a view with no columns selected.

To manage a view:

1. Select **View**, and select **Manage Views**.
The Manage Views window opens.
 - You can select the box in the Visible column to Show View or deselect it to Hide View.
 - You can select  to Delete View.
 - You can select and drag views to reorder the way they will appear in the View menu.

2. When finished, select **Save**.

Filter the Scenario Sheet

When creating a view, you can make viewing project information easier by using filters on both the scenario sheet and the project candidate list to narrow the focus of information to particular specifics, such as a date range, or a budget amount. For example, you might want to see only those projects in a specific date range, or only those projects with budgets greater than a specific amount, or projects of a specific type.

How you filter information depends on the column you choose to use as a filter. For example, you can use a text column, such as Project Name, or you can use a date column, such as Start Date. You can also use the AND and OR operators to apply multiple filters.

To filter information:

1. In the View drop-down menu, select **Create New View**.
2. In the **New View** window, select the **Filters** tab.
3. Select **Add Filter**.
4. Choose a **Data Element**: This drop-down list displays all data elements that are on the attribute form. Any data elements in a hidden block are not available.
5. Choose a **Condition**: This drop-down displays a list of conditions. This list is based on the type of data element selected.
6. Choose a **Value**: Depending on the type of data element, choose a value that the query condition must meet.
7. To add additional filters, select **Add Filter** again, and repeat the preceding steps. You can use the same data element multiple times.
8. If you are using multiple filters, select the applicable operator that should apply:
 - **And**: If you want to specify that the view must match all listed filters, select **And**.
 - **Or**: If you want to specify that the view should match any of the listed filters, select **Or**.
9. When you are done, select **Save**.

Group the Data on a Scenario Sheet

When creating a view, you can group the data on the sheet by column. Grouping data can make it easier to identify projects with similar characteristics, such as estimated cost or start date. You can group by any column except the **Pre-Actuals** and year columns. When you group data, the system displays a sub-total amount by group.

To group the data:

1. In the View drop-down menu, select **Create New View**. The New View window opens.
2. Navigate to the **Group By** tab.
3. Select the column by which you want to group the data from the drop-down menu.
4. Select **Ascending** or **Descending** from the **Order** drop-down menu to determine the order in which the data will be displayed.
5. Add more groups by selecting the *gear menu* () , and then selecting **Add Below**.

- When you create multiple groups, you can use the *gear menu* to **Add Above** or **Add Below**.
 - When you create multiple groups, you can use the *gear menu* to **Move Up** or **Move Down**, to determine the order in which your groups will appear on the scenario sheet.
 - You can use the *gear menu* to **Delete** groups that you have created.
6. When finished, select **Save**. Whenever you open this view, it will display the data in this grouping.

Sort the Data on a Scenario Sheet

To make data easier to locate alphanumerically on either the scenario sheet or the project candidate list, you can sort the information by column in ascending or descending order.

To sort the sheet by column:

Hover over the column heading. A set of arrows will appear. Select the arrows to sort the data.

- Select the arrow once to sort Ascending.
- Select the arrow a second time to sort Descending.

To sort the sheet by column when creating a view:

1. In the View drop-down menu, select **Create New View**. The New View window opens.
2. Navigate to the **Sort By** tab.
3. Select the column in which you want to sort the data from the drop-down menu.
4. Next, select **Ascending** or **Descending** from the Order drop-down menu to determine the order in which the data will be displayed.
5. Sort more columns by selecting the *gear menu* (⚙️), and then selecting **Add Below**.
 - When you sort multiple columns, you can use the *gear menu* to **Add Above** or **Add Below**.
 - You can use the *gear menu* to **Delete** sortings that you have created.
6. When finished, select **Save**. Whenever you open this view, it will display the data in the way you have sorted it.

Create a Scenario

When you create a portfolio, the system automatically creates one initial scenario sheet. You can create additional scenario sheets.

To create a scenario sheet:

1. Select the plus sign at the top of the scenario sheet window.
The system adds a "new scenario" tab to the top of the window.
2. Enter a name for the new scenario, and press **Enter**.
You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

The project records that will be included on the scenario sheet are extracted from the database using a query that your Administrator created when the portfolio was configured. Whenever you create or open a scenario sheet, the system re-runs the query and adds or removes projects from the scenario depending on whether the project matches the query criteria. For

example, a project that was previously on the sheet might be dropped from the sheet if it no longer meets the query criteria. Another project may be added to the sheet because it now meets the query criteria.

Edit the Name of a Scenario Sheet

To edit the name of a scenario sheet:

1. At the top of the scenario sheet window, double-click the tab showing the name that you want to edit. The tab name becomes editable.
2. Change the name as necessary. You can include up to 30 characters in the name. Letters, numbers, hyphens, spaces, underscores, and special characters are allowed.

Duplicate a Scenario

To duplicate a scenario:

1. At the top of the scenario sheet window, select the tab containing the scenario you want to duplicate.
2. In the upper-right corner of the window, select **Duplicate**.
The system duplicates the scenario into a new tab, which you can rename. All the projects in the original scenario will be duplicated to the new scenario, including their linked or unlinked state, and current column widths, targets, sorting, and so on. For the new scenario, the system will calculate the new totals and then calculate the variance to show the difference.

Share a Scenario

Sharing a scenario makes the budget numbers you propose available to project managers for viewing. Project managers will not see the changes you make on the scenario sheet itself. Instead, the project managers will use a read-only portfolio budget curve in their Cost Manager Cash Flow node to view both their original budget curve and a parallel scenario curve that shows the differences between their initial forecast projections and your proposed numbers.

For project managers to see the portfolio budge curve, you must share the scenario. For more information about the portfolio budget curve, refer to the *Unifier Modules Setup Administration Guide* and the *Unifier Managers User Guide*.

You must have "full access" permission to share a scenario. You can share only one scenario at a time.

To share a scenario:

1. At the top of the scenario sheet window, select the tab containing the scenario you want to share.
2. In the upper-right corner of the window, select **Share**.
3. Select **Save**.
The system visually marks the scenario tab with a "shared" icon and makes the scenario numbers visible on the portfolio budget cash flow curve for the project manager to see.

To stop sharing a scenario:

1. At the top of the scenario sheet window, select the tab containing the scenario you want to stop sharing.

2. In the upper-right corner of the window, select **UnShare**.
3. Select **Save**.

Remove a Scenario

To remove a scenario:

1. At the top of the scenario sheet window, select the x on the tab containing the scenario you want to delete, or
2. Right-click the tab containing the scenario you want to delete, and select **Remove**.
3. Select **Save**.

Approve a Scenario

After management has approved a scenario for the portfolio, you can mark the scenario as "approved." You must have "full access" permission to approve a scenario.

After you approve a scenario, the system:

- Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. The scenario is set to read-only mode and can no longer be modified or deleted.
- Updates each project's original budget numbers with the proposed numbers on the approved scenario.
- Updates each project's monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
- Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
- Updates the project/shell data with any project/shell information that was changed on the scenario sheet, and sends you an email notification of the updates
- Locks the budget and cash flow numbers to prevent any further changes.

To approve a scenario:

1. At the top of the scenario sheet window, select the tab containing the scenario you want to approve.
2. In the upper-right corner of the window, select **Approve**.
3. Select **Save**.

When you approve a scenario, the system automatically shares the scenario and visually marks the scenario tab with an **Approved and Shared** icon to indicate to project managers that this is the approved scenario.

To "un-approve" a scenario:

1. At the top of the scenario sheet window, select the tab containing the scenario you want to un-approve.
2. In the upper-right corner of the window, select **UnApprove**.
3. Select **Save**.
The Portfolio Manager deletes the approval icon from the tab, but does not delete the shared icon. If you want to stop sharing the scenario as well, you must select **Unshare** in the upper-right corner of the window.

Note

If you "un-approve" a scenario, the system does *not* reset dates to their original values. Date fields will retain the approved values.

Export the Scenarios

To use scenario data for additional purposes, you can export your scenario sheets to CSV files or Excel sheets.

To export scenarios:

1. Select **Print** at the top of the window.
2. Select **Export To CSV** or **Export To Excel**.
The Portfolio Manager will export all your scenario sheets.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000). One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

You will see a prompt at the bottom of the window, asking you to open or save the files.

When you open the file, it displays the data from each scenario sheet, arrayed in tabs and columns identical to the Portfolio Manager scenarios. The sheet will include any formulas that were created in the Portfolio Manager for calculating values. The sheet also retains the frozen columns, as well as the scrolling ability so that you can scroll through the cash flow columns.

Financial Period in Portfolio Manager

If you select the financial period type of the period structure in the configuration of Portfolio Manager, the system summons all the sub-periods, based on the selected planning period (drop-down list), starting from the year.

When you select Financial period in the time scale of Cash Flow curve, the system populates the financial period (present in the Shell options) in the financial period field of that Cash Flow curve.

The financial period present in the Shell options of parent Shell will not be used to filter projects in Portfolio Manager.

Note

When a financial period from the Shell is being used in a portfolio, you will not be able to change it in the future unless you delete all the scenarios associated with it.

The system displays all the periods (and their names) in Portfolio Manager as individual columns.

The scenario sheets bring in the following data from any Shell type in a hierarchy:

- Project information from the Shell Attribute Form
- Project information from a single-record business process
- Project start and end dates from the Shell Attribute Form
- Project start and end dates from a single-record business process
- Cash Flow data (both forecasted and actual) from each project Cost Manager
- Column names in the Portfolio manager will be the period name from financial period.
- Forecast & Actuals data will be populated only when user chooses the Forecast option in Cashflow **Begin calculations at end of curve**.
- Forecast data will be populated if **Display financial period breakdown of Actuals** checkbox is not selected.
- Actuals data will be populated if **Display financial period breakdown of Actuals** checkbox is selected.
- Baseline data will be populated if user has not used the option in Forecast **Begin calculations at end of curve**.

After these scenario analyses have been completed, you can send the best (or several best) scenarios to the executive decision makers for approval. After a scenario has been approved, the system:

- Marks the approved scenario "shared" so that project managers can see the approved dates and numbers. In this case, the scenario is set to read-only mode and can no longer be modified or deleted.
- Updates each project's original budget numbers with the proposed numbers on the approved scenario.
- Updates each project's monthly or yearly cash flow numbers with the proposed numbers on the approved scenario.
- Updates the project start date (if it was changed) for any planned projects that will begin during the portfolio's planning period.
- Locks the budget and cash flow numbers to prevent any further changes.

Note

The pre-actuals will be the consolidated amount for actuals before the start of Financial Period.

Planning Manager

The Planning Manager provides sponsoring companies the ability to create, organize, manage, and update all company or project/shell planning initiatives from conception to completion. It supports the ability to define unlimited number of planning categories, such as capital project planning, IT planning, resource planning, and so on, providing a flexible method for managing and organizing any type of planning initiative.

The Planning Manager provides the flexibility of defining unique planning item property forms and planning sheets. Each planning sheet can be configured with any number of columns to capture and manage data for all planned items.

In addition, the planning sheet can be configured to compare planned data with actual rolled up data from projects/shells, related to each planned initiative.

The Planning Sheet is central to Planning Manager functions. Each planning item "type" (such as a capital plan or a campus remodel) can have one or more planning sheets that contain information about the plans of this type being considered by your company or project. It is from these sheets that you can access, create, update, and import or export company plans. Business processes designed for planning items can roll up information onto the planning sheets. In addition, Project/Shell Creation types of business processes can be designed to create projects/shells for planning items when they reach a certain status or condition. If the Project/Shell Creation BP includes a Planning Item Picker, you can link new projects/shells with a planning item. At runtime, this BP will automatically create a link to the planning item when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project/shell.

The **Planning Items** node is where you create plans and proposals, import plans from outside applications, export a plan template, and link a plan to a running project/shell in Unifier.

The **Planning Sheets** node is where you create and manage planning sheets. A planning sheet can contain data for one or multiple plans and proposals. From the planning sheet, users can automatically update individual plans with data added to the planning sheet and refresh the data on the sheet, such as changes to dates or cost numbers.

About the Planning Manager

The Planning Manager is where you can plan for new projects/shells and proposals and create forecasts for those projects/shells that are already running in the system. You cannot administer planned projects/shells the way you administer real projects/shells; however, you can manage the planning phases for these projects/shells as business processes using the same functions used by other business processes. Planned projects/shells can include cost sheets, resource sheets, funding sheets, and other typical business processes; but certain data, such as dates and monies, can be viewed as future forecasts.

You can have a Planning Manager at both the company and project/shell levels.

The Planning Sheet is central to Planning Manager functions. This sheet contains information about all the plans (planning items) being considered by your company. It is from this sheet that you access, create, update, and import or export the company's plans. From the planning sheet, you can automatically update plans with changes made on the planning sheet. Reciprocally, you can refresh the planning sheet with changes made to individual plans. In addition, planning sheets can be configured to compare planned data with actual rolled-up data from projects/shells related to each planning item.

Using a Project/Shell Creation type of business process, you can create projects/shells for planning items when they reach a certain status or condition. If the Project/Shell Creation business process includes a Planning Item Picker, you can link new projects/shells with planning items. Instead of linking a planning item to a project in the Planning Manager, this business process will automatically create the link when the project/shell is created, and data will begin to roll up to the Planning Sheet from the business processes in this project/shell.

Using the snapshot feature, you can take a "picture" of the planning sheet at any point in time. This is a way of "drilling down" into the planning process to expose specific plans or planning phases for particular attention.

The **Planning Items** node is where you create plans and proposals, import plans from outside software applications, export a plan template, and link a plan to a running project/shell in the system.

The **Planning Sheets** node is where you create and manage planning sheets. A planning sheet can contain data for one or multiple plans and proposals. From the planning sheet, you can automatically update individual plans with data added to the planning sheet and refresh the data on the sheet, such as changes to dates or cost numbers.

Access Planning Items and Planning Sheets

The Planning Manager groups planning initiatives by planning type; for example, Capital Planning or IT Planning. Each planning type will have a node available for planning items in that type and also for planning sheets to manage the planning initiatives.

Planning items and sheets are grouped by their planning type.

To view planning items and planning sheets:

1. In **User** mode, navigate to:

- (For a Planning Manager at the company level) Go to the **Company Workspace** tab and select **Planning Manager** in the left Navigator.
- (For a Planning Manager at the project/shell level) Open the shell or sub-shell where the Planning Manager resides. In the left Navigator, select **Planning Manager**.

The system expands the left Navigator to show the planning types and their corresponding items and sheets.

2. To view:

- Planning items, choose a **<planning type> - Items**
- Planning sheets, choose a **<planning type> - Sheets**

The system displays the items or sheets in the right pane.

Note

If an advanced log has been designed for the Planning Manager, the log will display a tree structure with a middle column that narrows the navigation to help you locate and select the correct item or sheet.

3. To open the item or sheet, double-click the name of it in the right pane.

Access Planning Items from Master Log - Business Processes node

The **Master Log - Business Processes** node can list all planning items at the project/shell level in separate nodes for each type.

Note

The name of the **Master Log - Business Processes** node can be customized.

If you are an active member of the project, shell, or sub-shell, and you have permissions, you can access project/shell planning item records from the **Master Log - Business Processes** node. The **Master Log - Business Processes** node is in the **Home** tab. The **Master Log - Business Processes** node allows you to access all or a subset of records of the same type, in a single log that spans multiple projects/shells. Also, you can create and use saved searches under the **Master Log - Business Processes** node.

Note

If you do not have permissions to view any of the business process types listed under the **Master Log - Business Processes** node, you will not see the **Master Log - Business Processes** node in the **Home** tab.

Records are listed under the **Master Log - Business Processes** node by planning item type. The **Master Log - Business Processes** node can be renamed by your Administrator, and access to the node depends on permissions.

Depending on permissions, you can perform these actions on records listed in a Master Log:

- Create a new record
- Edit an existing record
- Perform bulk edits on records

You can also save searches of records in the Master Logs as needed.

To access Master Logs:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Master Log - Business Processes** (or **Master Logs - Planning Items**).
3. Select the name of the item you want to access.

Planning Manager Item Log (Attributes)

The **Planning Item** log displays the log and the preview pane.

To access the log for the company level:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Planning Manager**.

Note

The functions of the options presented below have been explained in the preceding sections. This section explains new functions and procedural differences.

The log contains the following toolbar options:

- **Create**
When you select **Create** to create a new record, the **Create New Planning - Item** window opens. The three horizontal bars icon enables you to update a record and access the following:
 - **Delete**
 - **Print**
 - * **HTML**
 - * **PDF**
 - * **Custom**
 - **Terminate Record**
 - **Transfer Ownership**
 - **Help**
 - * **[Planning Item] Help**
 - * **User Productivity Kit**
 - **Close**

During the creation step, the record has the following tabs:

- **Comments**
Enables you to add comments to the Planning attribute, only in the edit mode.
- **Linked Records**
Enables you to link records to the Planning attribute. The functional flow is the same as a non-workflow business process.

Note

When you are updating a record, the following additional tabs are displayed: **Audit Log** and **Reference Records**.

- **Actions**
- **View**
- **Edit View**
- **Refresh**
- **Print**
 - **Print**
 - **Export To CSV**
 - **Export To Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Search**
- **Find on page**
- **Help**
 - **[Planning Item] Help**
 - **User Productivity Kit**

The **Actions** option enables you to:

- **Import**
- **Export CSV Template**
- **Edit Permissions**
- **Bulk Edit**
- **Print**
- **Transfer Ownership**
- **Terminate Record**
- **Bulk Delete**
- **View Import Audit Log**

For each record, the *gear menu* () are as follows and each option enables you to conduct the action on one particular record.

- **Open**
- **Edit Permissions**
- **Print - HTML**
- **Print - PDF**
- **Print - Custom**
- **Transfer Ownership**
- **Terminate Record**
- **Delete**

The log preview pane has the following tabs:

- **Record Details**

- **Attachments**
- **Permission**

 Note

If an attribute form is present, you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Planning Manager Sheet Log

Similar to the Cost Sheet log, the Planning Manager Sheet log (for Company-level, Shell-level, and Project-level sheets) contains the following elements:

- Log header
- Toolbar
- Grid with columns and rows
- Right pane with tabs corresponding to each row of the sheet log

Toolbar

Option	Description
Create	As designed in uDesigner, the Create window enables you to enter values in fields that are categorized in different blocks. To modify the Data Sort options, open the Planning Sheet, select Edit View , and then select Sort By .
Actions	Contains the following options: • Permissions • Delete • Refresh
Refresh	Select Refresh to update the items on the log or roll up planning items from project level to company level.  Note The last update date displays only if the data element, <code>uuu_last_update_date</code> is included in the design of the planning sheet.
Print	To print the log.

Option	Description
Search	Similar to the Search option in the Business Processes log, this option enables you to search among log items. The Search window contains all the elements from the Planning sheet detail form log Find section, from uDesigner. If the Find option is not defined in uDesigner, there will be two fields in this window: <label of DE uuu_name> and <label of DE uuu_last_update_date>. You can run a search on these two sheet attributes. If the elements are defined in the log (the Find option is defined in uDesigner), all the defined elements appear in the window in the same order as defined in uDesigner.
Find on Page	To find an item on the log.
<Planning name> Help	To access corresponding help.

Columns

All columns are displayed according to the log design in uDesigner. Select  **Refresh** to update any planning item record or roll up planning items from project level to company level. The last update date displays only if the data element, uuu_last_update_date is included in the design of the planning sheet.

Rows

If the newly created sheet is the one that updates the planning items, the first column (Updates Planning Items) displays a check-mark icon.

At a given time, only one planning sheet in the log can updated Planning Items. So, if you modify the properties of a sheet to change the value of "Update Planning Items," the check-mark icon (in the first column) will appear or disappear based on your changes.

When you open the log (selecting the Planning Sheets node in the Navigator) and there are no records in the log, the right pane does not have any contents.

When you open the log (selecting the Planning Sheets node in the Navigator) and there are records, then:

- If no sheet is set to update the planning items: The topmost row in the log is selected by default and the right pane displays the selected sheet properties.
- If one of the sheets in the log is set to update the planning items: The sheet is selected by default and the right pane displays the sheet properties.

The tabs in the right pane are:

- **Properties**
This tab is selected by default and displays all attributes of the planning sheet as defined in uDesigner. The tab also contains the option to choose whether a sheet updates the planning items.
- **Permissions**
If you do not have Modify permission or Full Access permission (for planning sheets), you will not be able to view the Permissions tab. Also, if you do not have the Modify Properties permission (for Planning Sheet), you will not be able to modify the planning sheets properties.

- **Audit Log**
Similar to the other audit logs in the system, it displays the actions taken by the users. You can also view additional information about each Event in the **Audit Details** section located below the **Audit Log** tab.

The *gear menu* () for each planning sheet:

- **Open:** To open the planning sheet.
- **Permissions:** To edit the permissions to the sheet.
- **Copy:** Use Create Planning Sheet overlay form. All properties of the source sheet are shown as copied into this overlay form.
- **Delete:** To delete a sheet.

You can select multiple sheets and right-click to delete.

The *gear menu* is not available when you select multiple sheets.

Create a Planning Item

To create a planning item:

1. Navigate to:
 - (For a Planning Manager at the company level) Go to the **Company Workspace** tab, and switch to **User** mode. In the left Navigator, select **Planning Manager**.
 - (For a Planning Manager at the project/shell level) Go to the shell tab where the Planning Manager resides and switch to **User** mode. In the left Navigator, select **Planning Manager**.

The system expands the navigator to show the planning types and their corresponding items and sheets.

2. Select the **[planning item] - Items** node. The [planning item] log opens.
3. Select **Create**. The planning item form opens.
4. Complete the form fields. The form fields will vary depending on the design of the form for this planning type.

Note

If the planning item form has a Project or Shell Picker, you can use it to link the planning item directly to a project/shell. Business processes in the project/shell with fields that match those on the planning item form will roll up values to the Planning Sheet.

5. Save the form (select **Save** to save or **Submit** to prevent further editing).

Bulk Edit Planning Items from the Planning Manager Log

To edit planning items in bulk:

1. Navigate to the **Planning Items** log.
2. Select the desired planning item.

3. From the log, Ctrl+select to select the items that you want to edit.
4. Select **Actions**, and select **Bulk Edit** to open the **Bulk Edit** window.
The window is divided into two panes. Use the left pane to edit the details of each record.
The system automatically selects the Update checkbox when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
Use the right pane (Action Status) to preview the status of each record.
5. When finished, select **Close**.

For more information on editing these records in bulk, refer to the *Unifier Business Processes User Guide*.

Delete Planning Items

You can delete planning items if they are in a non-terminal status. You can delete planning items in two ways:

- From the planning item record itself
- From the Planning Manager Log using Bulk Delete mode

Note

When you delete a record, it is not actually deleted. It is only hidden from view on the log; the record remains in the system. Consequently, you cannot create another record with the same name. If there is a business process that auto-creates a planning item record, the name of that planning item will need to be changed; otherwise, you will never see it on the log.

To delete a planning item from a record:

1. Open the record.
2. From the toolbar, select **Delete**.

To delete planning items from the Planning Manager log:

1. Open the planning items log.
2. Highlight the item or items you want to delete.
3. From the *gear menu* () , select **Delete**.

Note

You cannot delete planning items from a master log.

Create a Planning Sheet

You can create planning sheets for each planning type. These are based on templates created in Admin mode.

To create a planning sheet:

1. Navigate to:
 - (For a Planning Manager at the company level) Go to the **Company Workspace** tab and select **Planning Manager** in the left Navigator.
 - (For a Planning Manager at the project/shell level) Open the shell or sub-shell where the Planning Manager resides and select **Planning Manager** in the left Navigator.

The Navigator expands to show the planning types and their corresponding items and sheets.
2. Under the planning type for which you want to create a sheet, select the **[planning item] - Sheet node**. The planning sheets log opens.
3. Select **Create**. The Properties window opens.
4. In the **General** block, name the planning sheet and enter an optional description.
5. In the **Options** block, you can select:
 - **Update Planning Items:** Select this checkbox if you want planning sheet users to be able to manually edit planned item data. This helps prevent conflicting data from multiple planning items. This box can be selected on only one sheet per planning type.
6. Select **OK**. The planning sheet opens. The columns are those defined in the default structure. You can add additional columns as needed. Rows correspond to planning items. See [Add and Manage Planning Sheet Rows](#).

Copy a Planning Sheet

The user will be allowed to create a new planning sheet under a planning type by copying another planning sheet. When a planning sheet is created by copying another planning sheet, all column definitions, manually entered data with each row should be replicated (copied over) including column definitions.

To create a planning sheet by copying another planning sheet:

1. Select a planning sheet from the Planning Sheet log.
2. Select **Copy** in the *gear menu* (⚙️). The Properties window opens.
3. Enter a name for the new sheet. You can change other information as necessary.
4. Select **Save**.

Open the Planning Sheet

To open a planning sheet:

In the log, select a sheet, and select **Open** in the *gear menu* (⚙️).

Columns displayed initially are based on the planning sheet default structure defined in Admin mode (Configuration node).

Add and Manage Planning Sheet Rows

You can add planning items of the same type to create rows on the planning sheet. By default, there are two rows at the bottom of the sheet, one for total and one for average, which add a summary row for the column data.

To add a row (planning item) to a planning sheet:

1. Open the planning sheet.
2. Select **Add Rows**. The Add Rows window opens, displaying the planning items created for the planning type.
3. Select one or more items, and click **Select**. The rows are added to the sheet.

To delete a row from the planning sheet:

1. Open the planning sheet.
2. On the planning sheet, select one or more rows to delete.
3. Select **Remove Rows**.
4. Select **Yes** to confirm. The rows will be removed from the sheet.

Add and Manage Planning Sheet Columns

To add a column to a planning sheet:

1. Open the planning sheet.
2. Select **Add Columns**. The Add Columns window opens.
3. Enter a **Datasource**, a **Query Data Type**, **Formula**, and **Column Position After**.
4. Edit the **Data Format** and **Additional Options** as necessary.
5. Select **Save & Add New**. The column is added to the sheet.

To manage a column in a planning sheet:

1. Open the planning sheet.
2. On the planning sheet, right-click the column header for the column you want to edit. The following options are revealed:
 - **Hide**: Hides the column from view. This can be undone by selecting **Menu Options**, selecting **Columns**, selecting **Unhide**, and then selecting **[column name]**.
 - **Copy**: Copies the current column. The properties of this copied column can be edited when the **Column Properties** window opens.
 - **Delete**: Deletes the column. Select **Yes** in the confirmation window that appears.
 - **Lock after this Column**: Creates a lock in the sheet that cannot be moved or resized. This can be undone by selecting **Edit View**, selecting **Lock after Column**, and then selecting **None**.
 - **Insert**: Opens the **New Column** window to insert a new column.
 - **Properties**: Opens the **Column Properties** window to view and edit the column properties.

Filter Planning Sheet Content

Some managers can accumulate a substantial amount of data. To make viewing this data easier, you can create views that filter (restrict) the content of the sheet.

You can use the **View** option to access existing views, create views, or update existing views. The views that have been created, including **Default**, are listed in the upper segment of the

drop-down list. The lower segment of the list includes the **Create New View** and **Manage Views** options.

To create a view:

1. Select **Create New View**.
2. Use the **Save** option to name your new view.
3. Use the following tabs for adding columns and filtering, grouping, and sorting information:
 - **Columns** tab
 - **Filters** tab
 - **Group By** tab
 - **Sort By** tab
4. Use the **Columns** tab to select the columns that you want displayed in the view. The **Available Columns** box displays all the columns that you might want to include. The **Selected Columns** box displays all the columns that you select. You can move columns in and out of the **Selected Columns** box.

Use the following fields to set the position of the new view:

- **Left Lock after Column:** Displays a list of all columns, except the last column from the selected columns list. By default, **None** is selected, which means that you have chosen no column to be locked, from the left side of the sheet.
 - **Right Lock after Column:** The default value is **None**, which means that you can select not to right-lock the column in the view. Other values in this field are based on the value that you have selected in the **Left Lock after Column**.
5. Use the **Filters** tab to control what information is displayed in the selected view. You can add multiple filters to a view, and you can use the same data element multiple times. When adding multiple filters, you can use operators to specify that the view must match all listed filters or that it can match one or more of the listed filters.
 - a. Select **Add Filter**.
 - b. Choose a **Data Element**: This drop-down list displays all data elements that are on the attribute form. Any data elements in a hidden block are not available.
 - c. Choose a **Condition**: This drop-down displays a list of conditions. This list is based on the type of data element selected.
 - d. Choose a **Value**: Depending on the type of data element, choose a value that the query condition must meet.
 6. To add additional filters, select **Add Filter** again, and repeat the preceding steps. You can use the same data element multiple times.
 7. If you are using multiple filters, select the applicable operator that should apply:
 - **And**: If you want to specify that the view must match all listed filters, select **And**.
 - **Or**: If you want to specify that the view should match any of the listed filters, select **Or**.
 8. Use the **Group By** and **Sort By** tabs to identify which columns should be used for group and sorting and in what order.
 9. When you are done, select **Save**.

To manage a view:

To update a view, select the applicable view from the **View** list, select **Edit View** , and then make and save the applicable changes.

To modify or remove a filter:

1. From within the applicable view, select **Edit View** , and select the **Filters** tab.
2. Make the applicable changes, such as changing the selected **Data Element** or **Condition**, updating the **Value**, or removing one or more of the filters from a set.
3. To save your changes, select **Save** or **Save As**.

Copy Column Data

To copy column data from a planning sheet:

1. Open the planning sheet.
2. Select **Menu Options**.
3. Hover over **Columns**, and select **Copy Column Data**. This will open the Copy Column Data window.
4. Select the column to copy from, the percentage of each row value to copy, and which column to paste the information to.
5. If you would like the value to be copied to all rows for this column, under Rows, select **All**. If you would like the value to be copied to only select rows, select **Partial** and select which Planning Items to copy the column data to.

Modify Planning Items from a Planning Sheet

You can update planning item information from a planning sheet. The **Update Planning Items** option must be selected in the Planning Sheet properties (**Options** section).

While defining columns on a planning sheet, data elements from the planning item can be selected. Some of these data elements can be edited from the planning sheet. Changes made to these elements are reflected on planning items automatically.

Data elements that are editable and not required on the planning item form will be editable from the planning sheet. The following are conditions under which a data element is not editable from the sheet:

- BP picker data elements
- Project picker
- Shell picker
- Data elements that are required on the form
- Data elements that are of SYS Logical Datasource (formulas)
- Data elements that are SYS Datasource

You cannot change the planning name. This can only be changed from the planning item window.

Grant Planning Sheet Permission

In addition to module-level permission, access to each planning item and planning sheet can be controlled based on user side permissions. The creator of a planning sheet is the owner of

the sheet. By default, the owner has full sheet permissions. The owner can grant permission to other users or groups as needed.

To grant permissions to a planning sheet:

1. In the planning sheet log, select the planning sheet.
2. Select **Actions**, and select **Permissions**. The Permissions window opens.
3. Add the users or groups you want to grant permission, and set the permission level. The permission settings are:
 - **Modify Permission:** Can view, edit, and modify permissions of a planning sheet.
 - **Modify Properties:** Can edit planning sheet properties.
 - **Edit:** Can view, add, edit, or import data on a planning sheet. The user cannot change the column structure.
 - **View:** Can view the planning sheet in view-only mode.
4. When you are done, select **Save**.
When you change settings in the Permissions window, the **Save** button is enabled. After you select Save, a spinning wheel appears while your changes are saved and then the Save button is dimmed.

To grant permissions to a planning item:

1. Open the Planning Item log that contains the item you want to grant permissions to.
2. Select the planning item.
3. Select **Actions**, and select **Permissions**. The Permissions window opens.
4. Add the users or groups to whom you want to grant permissions and set the permissions you want to grant.
 - **Modify Permission:** Users can view, edit, and modify permissions of the planning item. With this permission, you automatically give the user edit and view permissions.
 - **Edit Data:** Users can edit the planning item information.
 - **View:** Users can view the planning item but cannot make changes.
5. Select **Save** to apply the permissions.
When you change settings in the Permissions window, the **Save** button is enabled. After you select Save, a spinning wheel appears while your changes are saved and then the Save button is dimmed.

Understanding Reverse Auto-population

Certain data elements support reverse auto-population. These are specified in uDesigner. Reverse auto-population means that some values can be updated when other values are modified in a business process record that has reached a specified status.

Depending on the setup in uDesigner, auto-population can occur in these instances:

- Changes to data elements in a BP upper form can result in changes to the upper form of another BP.
- Changes to the detail form in a BP can result in changes to the upper form and detail form of another BP.
- Changes to the upper form or detail form of a BP can result in changes in the Asset, Resource, or Planning Manager forms.

View the Import Audit Log

1. Navigate to:
 - (For a Planning Manager at the company level) Go to the **Company Workspace** tab, and switch to **User** mode. In the left Navigator, select **Planning Manager**.
 - (For a Planning Manager at the project/shell level) Go to the shell tab where the Planning Manager resides, and switch to **User** mode. In the left Navigator, select **Planning Manager**.

The system expands the navigator to show the planning types and their corresponding items and sheets.
2. Select the **[planning item] - Items** node.
3. In the [planning item] log, select the applicable item.
4. From the toolbar, select **Actions**, and select **View Import Audit Log**.
5. In the **Import Audit Log**, view information pertaining to the import process that created the planning item such as the name of the CSV or Microsoft Excel file that was imported, the date that the item was created and completed, the name of the user who performed the import, and so on.

Note

By design, planning items with attachments are not included in the CSV import.

Print a Planning Manager Form

You can print a copy of a Planning item. You can choose PDF, HTML or Custom print formats and select one of the following options:

- Save a copy of the form as a PDF file and print the file
- Print an HTML view
- Print from a Word file if a custom print layout has been created for the form

The Custom Print formats include the Oracle Analytics Server custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Planning Manager, the form will print according to the layout that you select. For more information, see [Printing Options - Custom Format](#).

To preview and print a Planning Manager item:

1. Open the planning item that you want to print.
2. From the *gear menu* () , choose either **Print - HTML**, **Print - PDF**, or **Print - Custom**.
 - **HTML** to view the form in the browser which can then be printed.
 - **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
 - **Custom** to select the Oracle Analytics Server, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. See [Printing Options - Custom Format](#) for details.

The Print Options window opens. This window displays the record information that can be printed.

3. Select the checkboxes for the information that you want to print.
4. To select all the checkboxes, select **Show All**. To clear all, deselect **Show All**. If you deselect all checkboxes, only the header and footer will print.
5. Select **Print**. The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

Print Options for Planning Manager Form

Following is a summary of the print options.

Print option	What it prints
Detail Form	This prints the information entered on the form.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name and include the file title, issue date, revision number, and file size.
Record Attachments followed by Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

To print a Planning Manager item with a custom print layout:

1. Open the planning item that you want to print. Be sure it is in a view mode.
2. From the **Menu Options** (☰), hover over **Print**, and then select **Custom** to select the Oracle Analytics Server, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).
3. Select a **Template** and **Format**, and then select **Print**. The File Download window opens.
4. Choose to **Open** or **Save** the file, which is a Microsoft Word .doc file.
5. Open the file in Microsoft Word and print.

Printing Options - Custom Format

The Custom Format Print window has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates, including the custom print templates created in the **Custom Templates** node and the custom print templates. For example, the list may include Oracle Analytics Server custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates, all the published templates are listed in this section.

The "Select a template and format to print" section is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select an Oracle Analytics Server custom print, you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, "Select a template and format to print" is disabled.

Default template and format

- If an Oracle Analytics Server print template is selected, the default values in the drop-down lists are set based on the default in the custom print template.
- When an Oracle Analytics Server print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Resource Manager

If you have access to the Resource Manager feature, which was deprecated starting with version 23.10, it lets you:

- View a company's personnel resources or those of a partner company
- View skills, proficiency levels, resource capacities, and more
- View roles associated with personnel working on projects
- View job functions associated with roles

Using the Resource Manager

The Resource Manager is available at the company level and allows you to view resources and roles.

At the company level, the Resource Manager has two nodes:

- **Roles:** Displays the company-level roles entered in Admin mode.
- **Resources:** Displays the company-level resources that are hard-booked across projects.

View Roles

Roles are defined and maintained in Administration (Admin) mode at the company level. At the company level, you can view role details, which includes resources and rates.

To view role details:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Resource Manager**, and then select **Roles**. The Roles log opens.
3. Select a role, and select **Open**.

4. In the Role Properties window, select any of the following tabs:
 - **General:** Displays the role name, description, and status, and may display other fields; the fields on this tab correspond to the Role Attribute Form.
 - **Rates:** Displays standard and overtime rates defined for the role.
 - **Resources:** Displays resources that have been associated with the role.

View Resources

Resources are defined and maintained in Admin mode at the company level. You can view resources that are hard-booked for a project or across multiple projects.

To view resource details:

1. In **User** mode, do one of the following:
 - To view resources across projects, go to the **Company Workspace** tab, select **Resource Manager**, and then select **Resources**.
 - To view resources for a project, go to the shell tab, select **project**, select **Resource Manager**, and then select **Resources**.

The Resources log displays the following information for each resource:

- **Resource Code:** Automatically generated, manually entered, based on the configuration.
 - **Resource Name:** This is the name of the resource.
 - **Resource Type:** Description of the resource.
 - **Default Resource Capacity (Hrs):** Default value is 8. This defines the number of hours a person can work in a day.
 - **Sunday (Hrs.).....Saturday (Hrs.):** Depending on the design of the Resource Attribute Form, these fields may or may not appear on the General tab. If they do, they will show the number of hours the resource can work on each of these days. The system will use these values to calculate the resource's Capacity per week.
2. Select a resource, and select **Open**.
 3. In the **Resource Properties** window, select any of the following tabs:
 - **General:** This tab may vary greatly with the design of the Resource Attribute Form you imported. Fields may include:
 - **Roles:** Displays any roles that have been associated with the resource.
 - **Skills:** Displays any skills associated with the resource.
 - **Calendar:** The calendar displays bookings, vacation days, and so on for the resource.
 - **Projects:** Displays the projects in which the resource is booked and booking specifics.

View Your Own Resource Properties

At the company level, you can view your own resource properties and calendar. From your user sign in, the system identifies you and automatically gives you permissions to view your properties and calendar. However, you must have View permission to the Resource Log.

To view your resource properties:

1. In the left Navigator, select **Resource Manager**, and then select **Resources**.
2. Select the **Company Workspace** tab.
3. On the **Resources Log**, double-click your name.
4. In the **Resource Properties** window, view your information under each tab as necessary.

General Tab

This tab may vary according to the design of the Resource Attribute Form. Fields may include:

- **Resource Code:** Automatically generated, manually entered, based on the configuration.
- **Resource Name:** View your name.
- **Description:** View your description.
- **Resource Status:** View your status. The default is **Active**.
- **Capacity per week (Hrs):** View the number of hours you can work in a day. Default value is 8.
- **Sunday (Hrs.).....Saturday (Hrs.):** These fields may or may not appear. If they do, you can edit the number of hours you can work on each of these days. The system will use these values to calculate your **Capacity per week**.

Roles Tab

Select the **Roles** tab to view a role in your profile.

Skills Tab

Select the **Skills** tab in the **Resource Properties** window to view skills in your profile.

The following information is displayed for each skill:

- **Skill:** The name of the skill
- **Proficiency:** Displays your proficiency in each skill.
- **Interest:** Displays your level of interest in each skill.

Calendar Tab

Select the **Calendar** tab in the **Resource Properties** window to view booking dates as well as unavailable dates (non-project time, such as vacation days). The calendar shows both your soft and hard bookings.

To change your calendar view, select the **Month** or **Week** tab. In the Month view, a maximum of five projects/shells can be shown for any day. If you are booked for more than five project/shells in a day, you can view them all in the Week view.

Projects/Shells Tab

The **Projects/Shells** tab is read-only. You cannot edit the information on this tab.

Schedule Manager

If you have access to the Schedule Manager feature, it helps you manage project/shell schedules. You can use an existing **Project Schedule Sheet** that is customized to the project's needs. You can use existing sheets to create project activities and tasks, assign resources to tasks, create relationships between activities, track schedule progress and variables, and calculate the schedule's critical path.

① Note

The Schedule Manager feature was deprecated starting with version 23.5. However, if you have access to it, you can continue to use it with existing configurations, but you cannot create Schedule Sheets.

In Unifier, you can also import project schedule records from Primavera Project Planner or Microsoft Project. These external project schedules can provide additional detail or supporting schedule information—for example, resource information, or subcontractor or vendor schedules. Imported schedules are editable, and the data can be used in reports.

The Schedule Manager presents schedule activities as interactive Gantt charts, where you can:

- Zoom in to see tasks at the day, week, or month level
- Move activities and add dependency relationships, and automatically update the dates on the schedule
- Create critical path calculations that will flag activities that, if delayed, can cause the schedule to go beyond the planned project end date

Using the snapshot feature, you can take a "picture" of the schedule sheet at any point in time. Using the Schedule Manager's baseline function, you can measure progress and determine payments against original estimates. With the tracking Gantt feature, you can compare schedule dates, such as baseline estimates against the actual schedule.

If you copy activities from one schedule to another, Unifier will immediately notify you if the change will create a schedule conflict so that you can make corrections as you work. Each change in the Schedule Manager creates a record, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

Each project/shell can have multiple schedule sheets and one master schedule sheet. This master sheet drives project start and end dates, tracks the project's progress, and serves as the interface between the Schedule Manager and other modules. In particular, the master schedule updates resource assignment information in the Resource Manager, which affects timesheets and resource utilization figures, and it integrates cost items on the schedule with the Cost Manager. Users can refresh resource rates on the schedule sheet and post the new rates to the Cost Manager, update the cost sheet with assignment costs, and refresh costs on the sheet to recalculate labor costs and post them to the cost sheet.

Features include the following:

- Fully configurable activity attributes form
- Activities and Gantt chart on the same schedule sheet

- Interactive Gantt chart with ability to drag activity end dates and link activities
- Tracking Gantt chart
- Filters for activities
- Baselines for schedule sheets and activity sheets
- Activity update
- Integration of Schedule Manager with the Resource Manager, enabling resource loading of schedule activities
- Multiple CBS codes for each activity to capture activity costs, such as labor, non-labor, and fixed costs. If designed in uDesigner, you can add a column to the schedule sheet to display the CBS codes associated with each activity.
- View the cost distribution information by CBS codes from a schedule sheet
- Cut and paste and copy and paste of rows in a sheet
- Update of schedule sheets from linked templates
- Critical path calculation and display
- Streamlined and enhanced integration and interaction between the Schedule Manager, Primavera, and Microsoft Project
- Activity progress tracking and percentage of work completed per assigned resource
- Works with shells that have the CBS cost type
- Scope Management, with the ability to launch business processes from activities and automate schedule management.
- Budget and progress settings, and the ability to work with progress and earned progress data

For information about language (internationalization) and CSV files, see Internationalization and CSV Files.

Schedule Sheet permissions

User mode sheet-level permissions can be assigned by the creator or a user with Full Access permission.

Sheet-level permissions are set up on each project/shell Schedule Sheet on the user side, and can also be set up on schedule sheets within project/shell templates.

To assign permissions to a schedule sheet:

1. Go to the shell tab or the shell template.
2. Select the schedule sheet in the Schedule Sheets log.
3. Select **Permission**.
4. Add users or groups and assign permissions:
 - **Modify Permissions:** Allows the user to modify the permissions of a schedule sheet. Checking this permission will check all permissions below.
 - **Edit Data:** Allows the user to edit the sheet, including data, columns, and rows, cut and paste activities. Users that have the Edit Data permission can import data. They can also edit Activity Progress and refresh the schedule sheet.

- **Edit Data and Structure:** Allows the user to set and clear baselines on schedule sheets and Activity Sheets; also to copy and paste activities. Enables users to add or remove linked schedule sheet templates. Also enables users to edit data element level restrictions on activities on a schedule sheet. Users with the Edit Data and Structure permission can edit these activity progress related components:
 - Options tab of the Schedule Sheet Properties
 - Budget and Progress Setup (schedule sheet level or activity level)
 - Activity Progress
 - Activity Progress Log
 - Schedule sheet refresh
- **View:** Allows the user view-only access to the sheet. Automatically granted if any of the permissions above are granted. Can also view the Linked Template window.

5. Select **OK**.

Maintaining a Schedule Sheet and Updating Its Properties

Each schedule sheet has its own set of properties, which you can use to control schedule sheet behavior.

The system separates Schedule Sheet Properties into five tabs. Each tab has a distinct purpose.

- The General tab is where you can define basic schedule information, for example, Schedule Sheet Name, and Start Date.
- The Gantt Chart tab is where you can define what you want to see in the visual representation of the sheet, for example, common choices are Activity Name, Start Date, and Finish Date.
- The Tracking Gantt tab is where you can set up comparisons of activities, for example, you can compare Actual Start Date with the originally planned Start Date.
- The Options tab is where you can set up how you want the system to update activity status and progress requirements.
- The Schedule tab is where you set the schedule sheet refresh schedule.

You can have any number of schedule sheets in a project/shell. You can designate one sheet as a master schedule sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates, and allows you to assign resources to activities. You can use it to track progress and resource assignment information to other modules in the system.

Note

You may want to set up the schedule sheet before selecting it as the master sheet. After you select the sheet as the master sheet, it cannot be deselected.

To update a project/shell schedule sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.

3. In the **Schedule Sheets** log, select the applicable sheet, and select **Properties**.
4. Use the information provided in the following subtopics to make the applicable changes.
 - [Updating the General Tab for Schedule Sheet Properties](#)
 - [Updating the Gantt Chart Tab for Schedule Sheet Properties](#)
 - [Updating the Tracking Gantt Chart Tab for Schedule Sheet Properties](#)
 - [Updating the Options Tab for Schedule Sheet Properties](#)
 - [Updating the Schedule Tab for Schedule Sheet Properties](#)
 - [Using Import to Update a Schedule Sheet](#)
 - [Setting a Schedule Sheet as the Master Schedule Sheet](#)

Updating the General Tab for Schedule Sheet Properties

To complete the **General** tab of the schedule sheet properties:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the **Schedule Sheets** log, select the applicable sheet, and select **Properties**.
4. Complete the **General** tab as described in the table below.
5. Select **OK**.

In this field:	Do this:
Schedule Title	Enter a title for the template. This is used as the template identifier and must be unique. (up to 120 characters)
Description	Enter an optional description. (up to 400 characters)
Master Schedule	Selecting this checkbox identifies the schedule sheet as the "master schedule. (Only one is allowed per project/shell or project/shell template. After it is selected, it cannot be deselected.)
Status	When you are ready to make the template active and available for use, select Active.

In this field:	Do this:
Auto-control	Controls the automatic update of tasks for Scope Management. The default is Off. Setting Auto-control to On enables the automatic launch of BP records. Setting Auto-control to Off means that BPs will not be launched automatically on activities. Also, completion conditions will not be checked on activities. Users can still launch BPs manually.  Note The system disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.
Calendar	Select a calendar to use with the schedule sheet. You can choose from Standard Calendars (company-level calendars), Project/Shell Calendars, or Custom Calendars (defined for the Schedule Manager). This calendar is used by all activities on the schedule sheet. The Calendar data element is also available for use as a column in the schedule sheet. The calendar selected affects project durations and due dates. For templates, the only choice is Standard calendars. The Schedule Start Date always uses the Project/Shell Calendar. Activity start dates are not affected when you change the calendar. The selected Start Date or Finish Date for an activity can be a non-working calendar day, however the duration of the activity will only account for working calendar days.

In this field:	Do this:
Schedule Start Date	Drives the dates of floating activities on the schedule sheet for Scope Management. No activities can begin before this date. However, activities do not have to begin on this date if their preceding activities complete previous to this date. The Manual and Shell Attribute radio buttons are active for a master schedule sheet if the Project Start Date data element has been added to the Shell Attribute Form (for CBS shells) in uDesigner, and if no activity has started on the sheet. These buttons allow you to specify whether the Schedule Start Date should be set manually, or automatically populate. For non-master schedule sheets, the choice is always Manual, and Shell Attribute is not selectable. If you select the Manual radio button, you can select a Schedule Start Date. If you select Shell Attribute radio button, the Schedule Start Date automatically populates from the Project Start Date specified on the General tab of the shell properties. Also, the shell Project Start Date can update the master schedule sheet start date and reschedule the sheet accordingly. Sheets that were created with the Project Start Date specified on the shell will generate an entry in the Audit Log if the Project Start Date is changed. If the Schedule Sheet and the Activity Sheet are both in the same shell, and the Schedule Start Date (in the Schedule Sheet) is selected as the Project Start Date, and you update the Project Start Date in P6, then when you perform Get Data (in the Activity Sheet), the Schedule/Project Start Date (in the Activity Sheet) will not change if one or more activities show as Complete or In Progress in the Schedule sheet.
Notify users and/or groups on errors	Select Users and groups to be notified if there are errors during any point during the Scope Management task routing.
Permission: Enforce Activity Level Permissions by Group	Select to specify that you are implementing group activity editing. If you select this checkbox, you must also select a default group.
Default Group	Required if you select Permission Enforce Activity Level Permissions by Group. Select the group to use as the default group for activity-level editing.

Updating the Gantt Chart Tab for Schedule Sheet Properties

You can define the display of data elements on the activity bars on the Gantt chart. You can add up to three labels: to the left, on top, and to the right of each activity bar. The labels correspond with the data element fields that are available on the Properties window (Activity Attribute Form) for each activity.

Note

If you are selecting specific calendars for your project/shell and schedule sheet, the Gantt chart uses the project/shell-level calendar, not the calendar selected for the schedule sheet.

To configure Gantt chart activity bar text:

1. Select the **Gantt Chart** tab.
2. Select data elements.
You can add one label or all three. The selected data element(s) will display at the Top, Left or Right of the activity bar. The available data element options are derived from the activity form (Schedule Attribute Form or default form).
3. Select **OK**.

Updating the Tracking Gantt Chart Tab for Schedule Sheet Properties

A tracking Gantt chart allows you to compare two sets of dates for a specific activity. It allows you to track activity progress against the original plan. For example, the tracking Gantt chart allows the comparison between two sets of dates such as baseline and actuals. Users with view permissions can view a tracking Gantt chart. The tracking Gantt chart is view only. It is not interactive like the regular Gantt chart.

You can define the display of data elements on the activity bars on the Tracking Gantt chart. You can add up to three labels: to the left, on top, and to the right of each activity bar. The labels correspond with the data element fields that are available on the Properties window (Activity Attribute Form) for each activity.

To configure Tracking Gantt chart activity bar text:

1. Select the **Tracking Gantt Chart** tab.
2. Select data elements.
You can add one label or all three. The selected data elements will display at the Top, Left or Right of the activity bar. The available data element options are derived from the activity form (Schedule Attribute Form or default form).
3. Select **OK**.

Updating the Options Tab for Schedule Sheet Properties

These options allow you to control the automatic update of activity status based on Actual Start and Actual Finish dates, to specify that activity progress requires an Actual Start Date, and to enforce a dependency between Activity % Complete and the Actual Finish Date (with the option of auto-update of the Activity % Complete).

See [Project Progress Data Accumulation and Calculation](#) for details on progress data accumulation and earned progress.

To specify that activity status auto updates based on actual start and finish dates:

By default, the Activity Status controls Actual Start and Finish of an activity. If you select the Auto update activity based on Actual Start/Finish Dates, the Actual Start date and Actual Finish date control the Activity Status. Selecting this box, makes the Activity Status field read-only on the Activity Properties. When this checkbox is deselected, you can change the Activity Status.

The following table describes the interactivity of the Actual Start, Actual Finish, and Activity Status fields when the Auto update activity status based on Actual Start/Finish Dates checkbox is selected:

Actual Start	Actual Finish	Activity Status
Editable (no date selected)	Editable (no date selected)	Read-only. Not Started option is selected.
Editable (date selected)	Editable (no date selected)	Read-only. In Progress option is selected.
Editable (date selected)	Editable (date selected)	Read-only. Complete option is selected.

1. Select the **Options** tab.
2. Select the **Auto update activity status based on Actual Start/Finish Dates** checkbox.
3. Select **OK**.

To specify that activity progress requires an actual start date:

You can specify that activity progress information cannot be entered if there is no actual start date for the activity. For example, an actual start date must be specified for users to be able to enter any activity progress, including Activity % Complete and Earned Progress on the Activity Properties.

When the Checking the Activity Progress requires an Actual Start date checkbox is selected, the system validates that there is an Actual Start date specified for the activity. If there is no Actual Start date, and this checkbox is selected, users will not be able to enter activity progress data until the Actual Start date is added for the activity.

Note

You cannot select the Activity Progress requires an Actual Start date checkbox if the activity has recorded progress. If there are any progress entries, the system will not allow you to select this checkbox until a start date is provided or the existing progress data is deleted.

1. Select the **Options** tab.
2. Select the **Activity Progress requires an Actual Start date** checkbox.
3. Select **OK**.

To enforce dependency between Activity % Complete and Actual Finish Date for an activity:

You can enforce a dependency between the Activity % Complete and the Actual Finish Date of an activity. When you select Enforce Activity 100% Complete against Actual Finish, the system will require the user to enter the percentage for Activity % Complete as 100%. Conversely, when the user specifies that Activity % Complete is 100%, the system will require the user to enter a value for the Actual Finish Date. Also, you can enforce that Activity % Complete is changed to 100% if an Actual Finish Date is entered.

Note

If data has been entered (Activity Finish Data is entered or the Activity % Complete is less than 100%, or conversely), and then you attempt to select the Enforce Activity 100% Complete against Actual Finish checkbox, the system will prevent you from selecting the checkbox for this option. In this case, you must clear the existing data to be able to select the Enforce Activity 100% Complete against Actual Finish checkbox.

1. Select the **Options** tab.
2. Select the **Enforce Activity 100% Complete against Actual Finish** checkbox.
3. Select **OK**.

Note

Impact on Scope Management: If you have specified a dependency between the Actual Finish Date of an activity and the Activity % Complete, the Activity % Complete value for an activity will automatically update to 100% when an Actual Finish Date is entered for that activity. This can occur when the Activity Status is updated to Complete, whether through a business process or manually.

To auto-update Activity % Complete based on Actual Finish Date for an activity:

If you have selected Enforce Activity 100% Complete against Actual Finish, you can further specify that the Activity % Complete value is automatically updated to 100% when the user enters an Actual Finish Date.

1. Select the **Options** tab.
2. Select the **Enforce Activity 100% Complete against Actual Finish** and **Auto-Update % Complete to 100% after entering Actual** checkboxes.
3. Select **OK**.

Updating the Schedule Tab for Schedule Sheet Properties

The schedule sheet refresh updates cost data associated with the schedule sheet. The refresh updates activity costs and resource/role costs.

A schedule sheet refresh can fail if:

- An activity has more than one CBS code
- A cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet

You can set the refresh frequency. The refresh frequency you set is shown in the schedule sheet log under the column heading **Scheduled**. Schedule sheets that require refresh are listed in the Schedule Sheet log displaying the Refresh icon.

To set the refresh frequency of schedule sheet template data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the **Schedule Sheets** log, select one or more schedule sheet templates.

4. From the toolbar, select **Refresh** , and then select **Set Frequency**.
5. In the Set Frequency window, select the **Enable scheduled refresh** checkbox.
6. Select the **Frequency** and the **Range of Recurrence**.
7. Select **OK**.

Using Import to Update a Schedule Sheet

You can also use CSV, XML, and MPP files to update an existing sheet. Before you begin:

- You must have permission to import files. See [Schedule Sheet permissions](#).
- For CSV or XML files, your administrator must first define the data mapping.
- To use the Activity Calendar from Microsoft Project, first create a calendar in Unifier with the same name as the external calendar.
- To import Resource Assignments from Microsoft Project, first add the same MPP resource types to the SYS Resource Type data set in Unifier. Oracle recommends using MPP standard resource types: Work, Material, and Cost.

To import CSV files:

1. Open the schedule sheet.
2. From the **File** menu, select **Import**, and then select **From CSV**. If a default mapping is not selected, the Select Data Mapping window opens.
3. Select the data mapping you want to use for this import, and select **OK**.
4. In the **File Upload** window, browse to select the file to upload.
5. Select **OK**.

To import XML and MPP files:

1. Open the schedule sheet.
2. From the **File** menu, select **Import**, and then select **From External Source**. If a default mapping is not selected, the Select Data Mapping window opens.
3. Use the table below to complete the fields in this window.
4. Select **OK**.
5. In the **File Upload** window, browse to select the file to upload.
6. Select **OK**.

In this field:	Do this:
MPP	Data mapping is not required. Leave the Data Mapping field empty.
MPP XML	Data mapping is required. Select the mapping you want to use.
MPP activity calendar	Select Consider Activity Calendar. This requires an existing calendar with the same name. If an activity calendar is not imported and considered, the activity will use the existing calendar defined in the schedule sheet properties.

In this field:	Do this:
MPP Resource assignments	Data mapping is not required. Leave the Data Mapping field empty. This requires a data set for the SYS Resource Type data element. Use MPP standard resource types: Work, Material, and Cost. Upon import, the system will soft-book these resource types.

Setting a Schedule Sheet as the Master Schedule Sheet

The system allows one master schedule sheet per project/shell. You can mark a schedule sheet in a project/shell and a project/shell template as the Master Schedule sheet.

NOT_SUPPORTED

Caution: Upon saving, Master Schedule designation is permanent and cannot be undone.

You can use the master schedule sheet to:

- Drive project dates, for example start date, finish date, planned completion, revised completion
- Drive activity start and end dates
- Track progress of activities over the lifetime of the project
- Drive scope management
- Post costs to the Cost Manager
- Support Cash Flow and Earned Value analysis
- Interface with the Resource Manager for resource assignments and availability

To mark a sheet as the master schedule sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the **Schedule Sheets** log, select the sheet that you want to make a master schedule sheet, and select **Properties**.
4. On the General tab of the Properties window, select the **Create as master schedule sheet** checkbox.
5. When the confirmation message appears, select **Yes**.

Changes that occur to copied and pasted activities

- Status will be set to **Not Started** for the pasted activity.
- **Actual Start Date** and **Actual Finish Date** will be cleared.
- Links to BP Record, Record Status are not copied.
- Critical Path elements are recalculated.

- Copying an activity will not copy dependencies.
- Moving **Summary Activities** will automatically move all activities below the summary whether the summary is expanded or collapsed. If the activity is not a summary row, any corresponding summary tasks will be updated automatically to reflect any changes in start, finish, and duration. The **Gantt Chart View** will reflect the new ordering of activities without affecting dependencies.

Activities remain in the buffer until the next copy/cut or save. Allowed actions that do not empty the buffer are:

- Find
- Zoom In or Zoom Out
- Focus
- Opening the Activity Attribute Form without changing data.

If you perform any other actions before selecting Paste, the contents of the buffer are lost. A subsequent paste will not result in any action. Actions that empty the buffer are:

- All actions on the toolbar (**Save, Add, Delete, Indent/Outdent, Gantt, Progress, Close Window**)
- All actions under the **File** menu
- All actions under the **Edit** menu except Paste
- All actions under the **View** menu except Find
- Selecting into any editable cell or modifying dates via **Gantt** or the **Activity Attribute** Form.

Adding an Activity to an Existing Schedule Sheet

Before you begin: Schedule sheet permission is granted on a sheet-by-sheet basis. Adding or editing an activity requires **Edit Data** or greater permission. If you only have **View** permission, you cannot add or edit activities. See [Schedule Sheet permissions](#).

This page contains information on adding activities manually, copying activities from another sheet, and using copy/cut and paste.

For information about importing schedule sheet data directly into Unifier, see [Maintaining a Schedule Sheet and Updating Its Properties](#).

Add Activities

You can add activities to a schedule sheet in the Activity Properties window.

Select the topic links for information and directions on completing:

- The [General tab of the Activity properties](#)
- The [CBS tab of the Activity properties](#)
- The [Resources tab of the Activity properties](#) and [Role-related Calculations](#)
- The [Dependencies tab of the Activity properties](#)

To manually add an activity to a schedule sheet:

1. Go to the shell tab where the schedule sheet resides, and switch to **User** mode.

2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**. The Schedule Sheets log opens.
3. From the **Edit** menu, or from the toolbar, select **Add**, and select **Manual**. The Activity Properties window opens.
4. Complete the activity property tabs as described in [General tab of the Activity properties](#).

To copy an activity from another sheet:

1. Go to the shell tab where the schedule sheet resides, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**. The Schedule Sheets log opens.
3. Open the sheet you want to change.
The default order for a new row is at the end of the activities list. You can insert a row where you want it by selecting a row on the sheet. The system adds the new row above the selected row.
4. From the **Edit** menu, or from the toolbar, select **Add**, and select **Copy Activity From**. The Schedule Manager Picker window opens.
5. Select a schedule sheet from the **Schedule Sheet** drop-down list, which lists all the active schedule sheets in the current project.
6. Select an activity from that sheet, and select **Copy**.
Non-hardbooked roles are copied into the destination schedule sheet.
The role amount is recalculated for the added activity and for any activity that has its start or finish dates changed as a result of the addition.
7. If you want to change the activity properties, click the activity to open it.

To copy and paste activities in a sheet:

1. Open the schedule sheet in the log.
2. Highlight the row or rows you want to copy.
3. From the **Edit** menu, select **Copy**.
4. Select the destination for the copied rows. The rows you copy will be inserted above the selected destination row.
5. From the **Edit** menu, select **Paste**. You can repeat this step multiple times to repeat pasting the copied rows.
6. Copy and paste copies all data on the copied activity including **Scope Management Setup, dependency relationships, Baselines, CBS, and resource assignments**.

To cut and paste activities in a sheet:

1. Open the schedule sheet in the log.
2. Highlight the row or rows you want to cut.
3. From the **Edit** menu, select **Cut**. The row you want to cut is highlighted and remains in place until you paste it.
4. Select the destination for the cut rows. The rows you paste will be inserted above the selected destination row.
5. From the **Edit** menu, select **Paste**. You can repeat this step multiple times to repeat the pasting of the cut rows.
6. You can undo the cut action by selecting **Undo Cut** from the **Edit** menu.

General tab of the Activity properties

The General tab shows fields from the schedule sheet. The fields may vary depending upon how the designer created the Schedule Sheet Attribute Form. The table below shows required fields.

In this field:	Do this:
Activity ID	The Activity ID reflects the list order of activities on the schedule sheet. This field is automatically populated and can change if activities are added or removed.
Activity name	The activity name reflects the activity on the schedule sheet. This is an editable field; any changes in the attribute form will show up on the schedule sheet.
Start Date	Enter or edit the date an activity will start. role-related calculation
Finish Date	Enter or edit the date an activity will end. Any changes to the finish date, either in Activity Properties or directly in a schedule sheet column, will trigger the system to recalculate the role amount of the role assigned to the activity. This helps you understand the cost impact of a schedule change.
Task Duration	The task duration is automatically calculated from the start and finish dates. If you enter a value that is larger than the difference between the start and finish dates, the duration is re-calculated from the start date.

CBS tab of the Activity properties

On the CBS Codes tab, you can link a CBS code to an activity, which makes the activity available for cash flow analysis.

To add a CBS code:

1. Select **Add**, which is located on the bottom left of the window. The Add CBS Code window opens.
2. Select a CBS code from the CBS code picker. The CBS Item automatically populates based on the CBS code selection.
3. Add a value for Split Percent. Oracle recommends using 100%.

To remove a CBS code:

1. Select the CBS code you want to remove.
2. Select **Remove**, which is located on the bottom left of the window.

Resources tab of the Activity properties

On the Resources tab, you can assign resources and roles to an activity using the Schedule Sheet Resource Assignment form, which can be different than the one shown here. Fields can be in a different order on the form, the form can include additional fields than this form, and the form can dynamically change, depending on field selections.

Note

When you assign resources or roles that have multiple rates to an activity sheet, to update the total cost (Total Cost value), you must reschedule, or recost, the activity sheet; otherwise, the system will assign earliest assigned resources or roles rates (price/unit) to the activity sheet, and you will not be able to view the correct accumulated cost.

Before you begin, be sure your administrator defined resources and roles in the company-level Resource Manager.

To add or edit a resource:

1. Select **Add**, which is located on the bottom left of the window. The Resource Assignment window opens.
2. Use the information in the table below to complete the fields on this form.
3. Select **OK** to save the form.

In this field:	Do this:
Resource Type	Select a resource type for the activity. Hard Booked resource costs roll up to the total activity cost as a labor cost. They are company defined and can be virtually anything from a person to something like pipe or concrete. Non-hard booked resource costs roll up to the non-labor costs of an activity. They are company defined as well and can be virtually anything from a person to something like pipe or concrete. Note Data set values for this drop-down field must start on row 1 and cannot be 0 (zero).
Resource Picker	Select a resource for the activity. If you selected a hard booked resource for the activity, you can use the Resource Picker to assign a resource to this activity. If you selected a non-hard booked resource, the Resource Picker is unavailable and you must enter the Resource Name.
Resource Name	View or enter the resource name. If you selected a hard booked resource, this field is automatically populated. If you selected a non-hard booked resources, you must enter the name of the activity resource.

In this field:	Do this:
Resource Code	View or enter the resource code of the assigned resource. If you selected a hard booked resource, this field is populated with the code of the selected resource. If you selected a non-hard booked resource, this field is editable and you can enter a value.
Role Data Picker	If this field is not on your form, disregard these instructions. If this field is on your form, you can select a role for the activity. See Role-related Calculations for instructions on working with this field.
Role Name	This is a read-only field where you can the role of the resource assigned to the activity. If a hard booked resource is selected, this field is auto-populated. If a non-hard booked resource is selected, this field is not populated. If a role data picker is on your form, and you selected a role using the picker, the Role Name is automatically populated.
Quantity (Qty)	Enter the resource quantity, for example tonnage or number of days, as suitable for the resource.
UOM	Select the unit of measure associated with the effort. For example, if the Resource Type is Man-hours, the unit of measure is hours.
Rate	View or enter the unit rate of the effort. If a hard booked resource is selected, this value is read-only and populated based on the rate at which the resource is booked. If a non-hard booked resource is selected, you must enter a rate. If you used a role data picker to select the role, the rate is pre-populated.
Amount	View or enter the amount or cost of the effort. If the resource selected is hard booked, this field is read-only and the value is calculated automatically by multiplying Quantity (Qty) with Rate. Otherwise, this data element is editable. You can enter a value in Unifier or a formula can be defined in uDesigner to calculate the amount.
Role Amount	If this field is not on your form, disregard these instructions. If this field is on your form, this field is automatically calculated.

In this field:	Do this:
% Units	View or enter the percentage of the resource available for the activity. If a hard booked resource is selected, enter the percentage. If a non-hard booked resource is selected, this field is unavailable. If a role is selected using the role picker, this field is automatically calculated.
% Complete	This is a read-only field that shows the percentage completion of the activity. The value of this data element is calculated using $\text{Progress Quantity} / \text{Quantity (Qty)}$.

Role-related Calculations

When you use a role data picker to assign a role to an activity, the system can use the role information to calculate role costs.

Role-related calculations

Activity role rate: For the activity role rate calculation, the system takes into account the effective date of the current role rate and the active currency exchange rate. The system recalculates the role amount under these circumstances:

- The activity role rate changes, or any other activity dates change, for example, finish date or duration.
- The role changes.
- An activity is copied in the sheet.
- An activity is copied from another sheet.

Activity role amount: The system calculates the activity role amount on a daily basis. It considers:

- Value of the role rate, as of the effective date (this can differ by effective date)
- Activity duration (this is the length of time the role rate was applicable before another rate became effective)
- Active currency exchange rate (this can change due to currency fluctuations)
- Percentage of a role's assignment to the activity (% Unit) (this can differ during the activity)

The system uses active currency exchange rates for transaction-to-project currency conversions. Exchange rate changes will flag the schedule sheet for refresh.

Role amount recalculation: Any changes to start and finish dates, duration, predecessor activities, constraints, available days (via the calendar), activity levels (indent or out-dent) can trigger the system to recalculate the activity role amount. You can see the effect of activity role rate changes in cash flow distribution. The system calculates all values on a daily basis and adds up all amounts.

[illegible]

Activity amount: An activity can have more than one role, each with its own costs. If the activity is associated with at least one CBS code, the system tallies the role amounts for an activity, rolls up costs to non-labor costs, and displays the sum of CBS code in cash flow.

To use the role picker:

1. Go to the shell tab where the schedule sheet resides, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**. The Schedule Sheets log opens.
3. Select the schedule sheet that contains the activity you want to modify and open it.
4. Select the activity you want to modify. The Activities Properties window opens.
5. Select the **Resources** tab, and select **Add**, which is located on the bottom left of the window. The Resource Assignment window opens.
6. If you are using a role data picker, complete these fields:

In this field:	Do this:
Resource Type	Select a non-hard booked resource type for the activity. Non-hard booked resource costs roll up to the non-labor costs of an activity. They are company defined, and can be virtually anything from a person to something like pipe or concrete.
Resource Picker	This field is not available.
Resource Name	Enter the name of the activity resource.
Resource Code	Enter the resource code of the assigned resource.
Role Data Picker	Select a role for the activity. You can click Select or the drop-down arrow and select Roles. This is a dynamic button whose label changes according to the previous selection. For example, after you select a role, the button name changes to Rate so you can access the Role Rate Override.
Role Name	The Role Name is automatically populated.
Quantity (Qty)	Enter the resource quantity, for example tonnage or number of days, as suitable for the resource.
UOM	Select the unit of measure associated with the effort. For example, if the Resource Type is Man-hours, the unit of measure is hours.

In this field:	Do this:
Rate	This field is not available for direct edit. Rates can be changed either at the company level or via Role Rate Override.
Amount	This data element is editable. You can enter a value in Unifier or a formula can be defined in uDesigner to calculate the amount.
Role Amount	This field is automatically calculated.
% Units	This field is automatically calculated.
% Complete	This field is read-only; it shows the percentage completion of the activity. The value of this data element is calculated using $\text{Progress Quantity} / \text{Quantity (Qty)}$.

If you want to override the role rate, go to the next procedure below to override the role rate. If not, select OK to save and close the form.

To override the role rate:

1. In the **Role** picker field, select **Rates**.
The Current Effective Rate window opens, which shows the Effective Date, Standard Rate, and Custom Rate for the role selected.
2. In the Current Effective Rates window select the **Custom Rate** field and enter the new rate for the role. You cannot change the Standard Rate from this window.
3. If you want to add another rate that will take effect later, select **Add**. The system adds a line to the form.
4. In the **Effective Date** field, specify when this rate should take effect. Dates must be unique and fall within Start / Finish dates.
5. In the **Custom Rate** field, specify the rate you want for the role.
6. Select **OK**. Role rates recalculate upon schedule sheet refresh.

Dependencies tab of the Activity properties

On the Dependencies tab, you can add dependencies between the current activity and other activities from the schedule sheet. You can select another activity on the schedule sheet, determine the relationship, (for example, Finish to Start, Start to Finish, Start to Start, or Finish to Finish), and add a Lag.

Note

The system disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.

To add or edit a dependency:

1. Select **Add**, which is located on the bottom left of the window. The Add Dependency window opens.
2. In the **Activity Name** field, select the activity to make dependent upon the current activity.

3. In the **Relationship** field, select from one of the following options:
- **Finish to Start**: the dependency must finish before the Activity can start.
 - **Start to Finish**: the dependency must start before the Activity can finish.
 - **Start to Start**: the dependency must start before the Activity can start.
 - **Finish to Finish**: the dependency must finish before the Activity can finish.
4. In the **Lag** field, enter the number of days for a gap or overlap between the selected activity and the current activity. A positive lag indicates a gap. A negative number indicates an overlap. Non-Working days are not counted.

To remove a dependency:

1. Select the dependency to remove.
2. Select **Remove**, which is located on the bottom left of the window.

Add a schedule Sheet column

There are three default columns: **Start Date**, **Finish Date**, and **Duration**. Duration always displays the result of **Finish Date** minus **Start Date**. You can add other columns as needed. You can add baseline columns that map to **Start Date**, **Finish Date**, and **Duration**. See [Set Schedule Sheet Baselines](#).

 Note

Any changes to an activity start date, either in Activity Properties or directly in a schedule sheet column, will trigger the system to recalculate the role amount of the role assigned to the activity. See [Role-related Calculations](#).

To add a schedule column:

1. Go to the shell tab where the schedule sheet resides, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheet**. The Schedule Sheets log opens.
3. Open the schedule sheet, and select **Columns**. The Columns Log opens
4. Select **New**. The Column Properties window opens.
5. Complete the Column Properties window as described in the following table.
6. Select **OK**.

In this field:	Do this:
Name	This field is populated with the chosen Data Source
Data Source	Select a Data Source from the drop-down list. The options include the data elements in the activity Properties window. When a Schedule Attribute Form is designed in uDesigner, the data sources include all elements on the form, including hidden elements. This list also shows data elements based on Sys Project Cost Data Source data definitions.

In this field:	Do this:
Entry Method	Choose one (the options that are available are dependent on the data source chosen): • Manual Entry: Users enter values directly on the schedule sheet • Formula: Value is calculated using the entered formula. Formulas can include calculating differences between date columns, or adding / subtracting numeric columns / values from dates. This is useful to calculate durations or to calculate one date from another date by adding/subtracting days. • Cost Sheet Column: Select a Cost Sheet column to associate with the data element based on the data definition Sys Project Cost Data Source. This pull-down menu lists all the columns defined on the Cost Sheet. The cost data is refreshed when you or a user choose Refresh from the File menu in a Schedule Sheet and refresh immediately or set up a refresh frequency. The Cost Sheet Column selector is available on schedule sheets in projects/shells and in project/shell templates. • The Cost Sheet Column definition must be reselected in a new schedule sheet that you create by copying a sheet or template, or by copying a project/shell. Definition must also be reselected if you link the schedule sheet.
Data Format	This controls how data is displayed on the schedule sheet. Options are: • Show as percentage. Data is displayed as % • Decimal places. Choose 1 to 8 • Use 1000 Separator. Select the checkbox to include a comma (,) separator • Negative Number Format. Choose parentheses or minus sign

In this field:	Do this:																																																		
Summary	This controls the display of numeric and date column data on summary rows. Display: Select the checkbox to display summary data for the column Date Rollup: Available only for Date data types. Select Earliest Date or Latest Date. Earliest Date: To summarize columns that represent activity start dates (for example, start, planned start, actual start, and so on). The cell on the summary activity will show the earliest date from all child activities. Latest Date: To summarize columns that represent activity finish dates (for example, finish, planned finish, actual finish, and so on). The cell on the summary activity will show the latest date from all child activities. Number Rollup: Available for numeric columns. Choose Total (displays sum total of the rows), Average (displays average value of the rows), or Weighted Average based on and select a field from the Activity Attributes form. For example, you might choose Total for currency or other numeric types; for percentage columns, you might want to choose Average. Weighted Average Based On: The drop-down list for this option lists the data elements available on the Activity Attribute Form. Only data elements of the type Numeric are available for selection. Selecting this option and a data element allows the system to calculate the weighted average of summary rows. For example: <table><tr><td></td><td></td><td>% Complete</td><td>Amount</td><td></td></tr><tr><td>Super Summary Activity 1</td><td></td><td>31%</td><td>2,700.00</td><td></td></tr><tr><td>Summary Activity 1</td><td></td><td>27%</td><td>900.00</td><td></td></tr><tr><td></td><td>Activity 1</td><td>25%</td><td>200.00</td><td></td></tr><tr><td></td><td>Activity 2</td><td>30%</td><td>300.00</td><td></td></tr><tr><td></td><td>Activity 3</td><td>25%</td><td>400.00</td><td></td></tr><tr><td>Summary Activity 2</td><td></td><td>33%</td><td>1,800.00</td><td></td></tr><tr><td></td><td>Activity 4</td><td>20%</td><td>500.00</td><td></td></tr><tr><td></td><td>Activity 5</td><td>35%</td><td>600.00</td><td></td></tr><tr><td></td><td>Activity 6</td><td>40%</td><td>700.00</td><td></td></tr></table>			% Complete	Amount		Super Summary Activity 1		31%	2,700.00		Summary Activity 1		27%	900.00			Activity 1	25%	200.00			Activity 2	30%	300.00			Activity 3	25%	400.00		Summary Activity 2		33%	1,800.00			Activity 4	20%	500.00			Activity 5	35%	600.00			Activity 6	40%	700.00	
		% Complete	Amount																																																
Super Summary Activity 1		31%	2,700.00																																																
Summary Activity 1		27%	900.00																																																
	Activity 1	25%	200.00																																																
	Activity 2	30%	300.00																																																
	Activity 3	25%	400.00																																																
Summary Activity 2		33%	1,800.00																																																
	Activity 4	20%	500.00																																																
	Activity 5	35%	600.00																																																
	Activity 6	40%	700.00																																																
Display Mode	Choose to Show or Hide the column from user view. Users with Create permissions can see hidden column in the Columns Log.																																																		
Column Position After	The new column will be inserted after the column selected.																																																		

Create a formula column in a schedule sheet

You can create formula columns on a schedule sheet or template. Formulas can calculate differences between date columns, or add / subtract numeric columns / values from dates. This is useful to calculate durations or to calculate one date from another date by adding/subtracting days.

You can define formulas of the following types:

- **Numeric:** Build a numeric formula. This choice is available if the data source is SYS Numeric Logical.
- **Date Difference:** Formula is by default Later Date - Earlier Date. This choice is available if the data source is SYS Numeric Logical.
- **Date Add:** Add a numeric value to a date. This is available if the data source is SYS Date Logical.

SYS Numeric Logical and SYS Date Logical are data definitions from which data elements can be created in uDesigner and used on Schedule Attribute Forms.

How to tell which data source to use in building a formula

The ability to build formulas is dependent on the data definitions used to create the data elements on the Schedule Attribute Form.

To see which data elements are based on the above data definitions:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Data Structure Setup**, and then select **Data Elements**.
3. In the **Data Elements** log, select the column heading to sort by data definition.

Alternatively, you can choose a Data Source in the drop-down list, then, with the Data Source field still active, press your keyboard's up and down arrow keys to scroll through the data source options. When one of the above data definitions is reached, the Formula radio button becomes active.

To create a Numeric formula:

Choose **Numeric**, and select **Create**. Activity data type displays data elements that are defined on the detail form along with "SYS Numeric Datasource" and "SYS Numeric Logical Datasource".

To create a Date Difference formula:

1. Choose **Date Difference**, and select **Create**.
2. Enter Earlier Date and Later Date:
 - a. Click **Select**. The Data Element picker opens.
 - b. Choose a data element. Options are data elements from schedule sheet detail form or columns defined on schedule sheet. Only date type (Timestamp) data elements are displayed.
 - c. Choose **Calculation based on Calendar days** (non-working days will be counted) or **Work days** (non-working days will be ignored). Work days are defined in the company calendar.
3. Select **OK**.

To create a Data Add formula:

1. Choose **Data Add**, and select **Create**.
2. Choose a data element for Date and Add (click **Select** to open the data element picker). Data elements on the schedule sheet detail form and schedule sheet columns are available.
 - For Date, only date type (Timestamp) of data elements is displayed.
 - For Add, only numeric (integer, float) type of data elements or columns are displayed in the picker list. This includes Total and Average columns.

3. Choose Calculation based on Calendar days (non-working days will be counted) or Work days (non-working days will be ignored). Work days are defined in the company calendar.
4. Select **OK**.

Working with Schedule Sheets

Working with schedule sheets entails, for example:

- Adding or managing rows and columns.
- Tracking activity progress and costs.
- Managing dependencies and constraints.

In the open schedule sheet, you can view activities and columns in the left pane and view the Gantt chart in the right pane. You can move the split screen bar to the left or right as needed. Scroll bars are available on the bottom of the sheet.

For more information about Activity Sheets and Schedule Sheets, see [Activity Manager](#) and—if you have access to the Earned Value Manager feature—refer to the *Unifier Earned Value Management User Guide*.

To open a project/shell schedule sheet:

1. Go to the shell tab where the schedule sheet resides, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**. The Schedule Sheets log opens.
 - The log lists all active schedule sheets. To view all active and inactive sheets, select **View**, and choose **All**.
 - The Refresh icon  indicates whether you must refresh a schedule sheet to display the latest data. The Refresh icon is not displayed for schedule sheets that are Inactive or are in a view-only project/shell.
3. Double-click a schedule sheet in the log to open the sheet. If the sheet requires a refresh of the data, you will be asked if you want to refresh the sheet. Select **OK** to refresh the sheet or **No** to close the sheet without refreshing the data.
4. Select the sheet in the log, and select **Open**. The schedule sheet opens.

Schedule sheet toolbar

You can perform the following functions from the toolbar. Select the down arrow next to a button to view further options.

Button	Action
Save	Saves changes made to the schedule sheet.
Add	Select the arrow next to the button, and choose one of the options: • Manual: Add a row (activity) manually. • Copy Activity From: Add a row by copying a row in a selected sheet.
Delete	Select a row, and select Delete to delete the activity.
Indent	Select a row, and select to indent the row. The row above become a summary row.

Button	Action
Outdent	Select an indented row, and select to out-dent.
Gantt	Return to the Gantt chart view.
Progress	Access the Activity Progress view. See Entering Progress in the Activity Progress Window for details on activity progress.
Columns	Add and manage columns on the sheet.
Find	Select to search for an activity. You can search on any column on the sheet.
Zoom In	Select to zoom in the Gantt chart. The default view is week (by day), which is the maximum zoom-in view.
Zoom Out	Select to zoom out the Gantt chart. You can zoom out to month (by week) view and year (by month) view.
Focus	Select an activity, and select to move the activity into focus. The Gantt chart view moves to the beginning date of the selected activity.
Close Window	Close the schedule sheet.

Using a Gantt Chart

The Gantt Chart is displayed in the right pane of the schedule sheet. The activities are shown as bars and align with activities in the left pane. The activity bar is drawn with the start date, finish date, and duration elements of the activity. The Gantt chart is shown in week/day zoom mode by default.

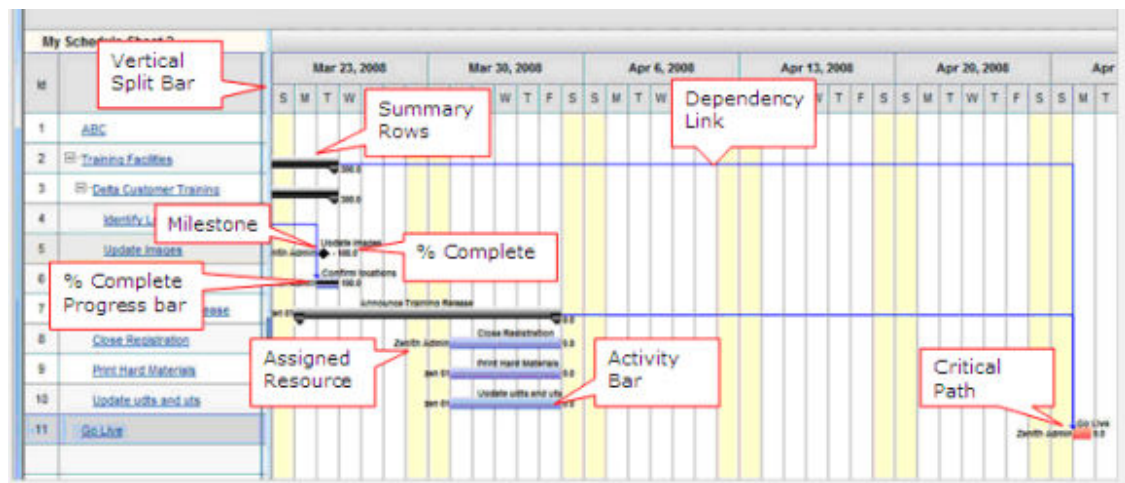
The Gantt chart displays:

- Activity bars, which illustrate start and finish dates and duration
- Dependency links between dependent activities
- Summary rows
- Milestones
- Critical paths

The Gantt chart is interactive. You can:

- Zoom in or out of the Gantt chart view to display detail or overview of scheduled activities.
- Configure activity bar labels; for example, you can display percent complete to monitor the progress of activities, or names of resources assigned to activities, or virtually any activity property. See [Updating the Gantt Chart Tab for Schedule Sheet Properties](#).
- Increase and decrease activity schedule durations by dragging on bar ends.
- Move activities from one time frame to another (modifying start and end dates).
- Add or remove a predecessor (dependency). See [Dependencies tab of the Activity properties](#).
- Resize Gantt window by dragging the vertical split bar.
- Display critical paths.

The Gantt chart is refreshed automatically when any changes are made on the activities.



Understanding the Gantt chart view

Zoom in or out of the Gantt chart

You can view the Gantt chart by week (per day), month (per week), or year (per month) by zooming in and out. This allows you to view the Gantt chart in detail or over an extended period of time.

To zoom in or out of the Gantt chart:

1. Open the schedule sheet.
2. Do one of the following:
 - From the toolbar, select **Zoom In**. The default view is weekly, with each day of the week displayed. This is the maximum detail level that you can zoom in to the schedule sheet.
 - From the toolbar, select **Zoom Out**. You can zoom out to view the Gantt chart by month with each week in the month displayed, or by year with each month displayed.

View the critical path

The critical path calculation can be used to flag activities on the schedule that, if delayed, can cause the schedule to go beyond the pre-planned project/shell end date. Therefore, it is important to have fixed project/shell start and end dates defined for the project/shell. project/shell start and end dates should not automatically adjust as activities are added or rescheduled.

To view the critical path:

1. Open the schedule sheet.
2. From the **View** menu, select **Critical Path**.
The activities that are on the critical path will change to red on the Gantt chart. The critical path action will also update the system-defined data element `uuu_float` to zero if it has been included on the activity attributes form (Activity Properties window).
3. To restore the Gantt chart view, from the **View** menu, select **Gantt Chart**.

View a tracking Gantt chart

A tracking Gantt chart allows you to compare two sets of dates for a specific activity. It allows you to track activity progress against the original plan. For example, the tracking Gantt chart allows the comparison between two sets of dates such as baseline and actuals. Users with

view permissions can view a tracking Gantt chart. See [Set Schedule Sheet Baselines](#) for details on setting baselines.

The tracking Gantt chart is view only. It is not interactive like the regular Gantt chart.

To view a tracking Gantt chart:

1. Select the schedule sheet in the log, select **View**, and then select **Tracking Gantt**.
2. To switch back to the regular Gantt chart, select **View**, and then select **Tracking Gantt**.

The tracking Gantt chart displays the data elements as a set of two bars (upper and lower) that allow you to make the comparison.

Using a Tracking Gantt Chart

You can use a Tracking Gantt chart to compare data sets defined in the schedule sheet properties. The read-only Tracking Gantt chart displays comparison as a set of two bars (upper and lower).

To view a tracking Gantt chart:

1. Select the schedule sheet in the log, select **View**, and then select **Tracking Gantt**.
2. To switch back to the regular Gantt chart, select **View**, and then select **Tracking Gantt**.

Find an activity

You can search for a specific activity by the values of any column on the schedule sheet.

To search for an activity:

1. Open the schedule sheet.
2. From the toolbar, select **Find**. The Find window opens.
3. Complete the window:
 - **Column:** Select the drop-down list, and choose a column to search on. The default is activity name.
 - **Value:** Enter all or part of a value to search for. For example, to search for the word Construction, you can enter the entire word or any part of the word.
 - **Search:** Select the drop-down list, and choose to search down or up from a selected row. If you do not select a row, the search will begin at the top row.
4. Select **Find Next**. If an activity is found that matches the search criteria, the row will be highlighted. To keep searching, select **Find Next** again.
5. When you are done searching, select **Cancel** to close the window.

About activity-level editing restrictions

Your Administrator can set up cell editing restrictions in schedule sheets. These restrictions can allow certain work groups to edit specific dates in the sheet and prevent other groups from editing these dates. If you are a member of a specific work group that has these restrictions set, you will find that you can edit only certain cells on the schedule sheet.

The following image shows an example of the impact on dates in a schedule sheet with activity-level editing configured, and with activities and group-specific date columns. In this

example, the groups Const, IT, and ATM all have group-specific start and finish dates for activities:

Activity	Start Date	Finish Date	Const Start Date	Const Finish Date	IT Start Date	IT Finish Date	ATM Start Date	ATM Finish Date
Activities owned by Const Group	Project manager can edit these dates		Const Group can edit these dates					
Activities owned by IT Group					IT Group can edit these dates			
Activities owned by ATM Group							ATM Group can edit these dates	

As shown in the example, the date cells in the schedule sheet that are specific to a certain group can be edited only by that group.

Restrict Access to Activity fields and columns

You can restrict user access to selected fields and columns (those based system defined data elements on the General tab, which are on the Activity Attribute Form and on the Resource tab, which are on the Resource Assignment Attribute Form).

Note

These restrictions also apply to schedule sheet columns when a restricted data element is used as a column.

After a field or column is marked with restricted access for selected users or groups, those users or group members cannot modify those data elements (fields). For Start Date, Finish Date and Duration data elements, users that are restricted cannot modify this group data elements, even if they have restriction on any one of the data elements in the group. Also, the Gantt Chart will be disabled for a user if the Start, Finish, and Duration data elements are restricted for that user.

If a data element cannot be modified by a user or group, data imported through CSV / XML for that data element is ignored. If there is any failure in validation (both user and system defined), the system will stop data import.

To restrict access to specified system defined data elements:

1. Navigate to the schedule sheet log.
2. Open a schedule sheet.
3. From the **File** menu, select **Restrictions**. The Restrictions Setup window opens.
4. Add the user or group name whose access you want to restrict.
5. Choose the data elements to restrict. The data elements listed for the Activity Attribute Form and the Resource Assignment Attribute Form are those that are system defined (the data element name starts with **uuu_**) and were added to the forms. You can select all the listed data elements, or individual data elements.
6. Select **OK**.

Use filters in a schedule sheet

You can use filters to locate certain activities in a schedule sheet. The filter is based on criteria that you specify. When you use a filter, it applies only to the schedule sheet you are working with, but the filters you create are visible to all other users.

To add a filter for activities in a schedule sheet:

1. Select the records in the schedule sheet that you want to filter.
2. Open the schedule sheet in the log.
3. From the **View** menu, select **Filters**. The Filters window opens.
4. Select **Add**.
5. In the Add Filter window, specify the filter criteria. Each filter can have multiple criteria based on the data elements in the Activity Attribute Form. You can also use this window to edit or remove filters. The **Add** and **Remove** buttons are enabled only for users who have edit permissions on the schedule sheet.
6. Selecting the **Display Summary Activities** checkbox controls whether the filtered schedule sheet displays summary activities corresponding to any leaf activities displayed in the sheet. The filter is not applied to the summary activities.
7. Select **Apply** to save and immediately apply the filter to the schedule sheet.
8. Select **OK** to save the filter for later use.

To apply a filter to schedule sheet activities:

1. Open the schedule sheet in the log.
2. From the **View** menu, select **Filters**. The Filters window opens.
3. Select the activities you want to filter.
4. Select a filter name, and select **Apply Filter**. The schedule sheet refreshes with the filter applied.

To clear a filter from a schedule sheet:

1. To return the schedule sheet to the original view, select the schedule sheet in the log.
2. From the **View** menu, select **Clear Filters**.

Update rates and cost data

When a resource is assigned, the average booking rate is used to calculate assignment costs.

Average Booking Rate = Total Booking Cost / Total Hours for the entire booking row selected while assigning the resource.

Labor Cost (for a resource assignment) = Total Assigned Hours x Average Booking Rate.

After assignment, the booking rate may change as changes occur to the booking sheet. These rate changes will not automatically affect the assignment (labor) costs stored in the schedule sheet.

You can update resource rates on the master schedule sheet and also update the project/shell cost sheet with corresponding assignment costs. The active currency exchange rate at the time of assignment will be used.

The update has two options:

- **Resource Utilization:** This updates resource rates only.
- **Resource Utilization and Cost Manager:** This updates resource rates on the schedule sheet and posts costs to the cost manager. This option is only enabled on the master schedule sheet.

To update rates on the schedule sheet:

1. Open the master schedule sheet.
2. From the **Edit** menu, select **Update**, and then select **Resource Utilization**. Labor costs on the entire schedule sheet are recalculated based on the latest average booking costs and exchange rate.

To update costs on the cost sheet:

1. Open the schedule sheet.
2. From the **Edit** menu, select **Update**, and then select **Resource Utilization and Cost Manager**. Labor costs are updated and posted to the cost sheet (column with labor cost data source) based on the CBS codes and split percentage specified on each activity. The existing cost in the cost sheet columns will be replaced by new values. Similarly, any values in the Fixed Cost, Non-Labor Cost, and Total Cost columns in the schedule sheet will be posted to corresponding data sources on the cost sheet.

Constrain Schedule Sheet Activities

You can constrain activities on a schedule sheet. A constraint ties a successor activity start date to a predecessor activity completion date, after observing dependencies and lags. Available constraints in the system are As soon as possible (ASAP) and None.

To constrain a schedule sheet activity:

Before you can constrain an activity, the activity's dependencies must be set.

1. Navigate to the schedule sheet where you want to constrain activities and open the sheet.
2. Double-click the activity you want to constrain. The Activity form window opens.

Note

If the schedule sheet displays the Activity Constraint column, you can assign the constraint without opening the Activity form window.

3. For each activity you want to constrain, select the activity constraint you want, either **As soon as possible** or **None**.
As soon as possible: If the start date of a predecessor activity changes, either pulls in or pushes out, the start date of an ASAP-constrained successor activity changes accordingly. If an ASAP-constrained activity does not have a predecessor, the schedule sheet start date determines the activity start date; unstarted ASAP-constrained successor activities align accordingly.
None: The start date of a None-constrained activity does not change if the start date of a predecessor activity changes. The schedule sheet start date does not determine the start date of None-constrained activities that do not have predecessor activities. The only in-built rule is that the start date of the None-constrained activity should not be earlier than the schedule sheet start date.

Integration: When activities are created through CSV, MPP, MPP XML, or P6, the default value will be None. Upon modification of the activity constraint type, Unifier scheduler will readjust the schedule sheet accordingly.

4. Select **OK** to close the Activity form window and save the schedule sheet.

Add general comments (with or without file attachments)

You can add general comments to a schedule sheet, and you can include file attachments with the comments. This is similar to adding general comments to a business process.

To add a general comment to a schedule sheet:

1. Select the schedule sheet in the log, and select **Comments**. The General Comments window opens.
2. Add your text comments in the **Text Comments** box in the upper portion of the window. You can view any previous comments in the Existing Comments section of the window.
3. To attach a file to the general comment, select **Attach**.

Note

After you add a general comment to a schedule sheet, you cannot edit or delete it.

4. Select **OK** to save the general comment.

Refreshing Schedule Sheet data

A schedule sheet refresh is required if there are changes to project costs, activity costs, for example role rates and amounts, currency rates, and schedule sheet or activity calendars. When the schedule sheet requires a refresh, you will see a Refresh icon in the log. When you open a schedule sheet that requires a refresh, you will be asked if you want to refresh the data in the sheet. If you decline the refresh the schedule sheet will not open.

Schedule sheet refresh options are set on the Refresh tab of the schedule sheet properties. Options include:

- Cost: Refresh the cost data only from the associated CBS code
- Schedule: Refresh the schedule data only, based on dates
- Cost and Schedule: Refresh both the cost and schedule data
- Set Frequency: Define the schedule sheet refresh frequency. This scheduled refresh updates both cost and schedule data.
- History: View the schedule sheet refresh history

Schedule sheet refresh can fail if:

- An activity has more than one CBS code
- A cost sheet column to which a schedule sheet column is associated is deleted from the cost sheet

To set the frequency of schedule sheet refresh:

The schedule sheet refresh frequency you set is shown in the schedule sheet log under the column heading **Scheduled**.

1. Navigate to the schedule sheet log.
2. Select one or more schedule sheets.
3. From the toolbar, select **Refresh** , and then select **Set Frequency**.
4. Select the **Enable scheduled refresh** checkbox.
5. Select the **Frequency** and the **Range of Recurrence**.
6. Select **OK**.

To view schedule sheet refresh history:

1. Navigate to the schedule sheet log.
2. From the toolbar, select **Refresh**, and then select **History**.
3. Select a record, and select **Open** to view history details.
4. Select **Cancel Request** to cancel any history query that has not started (has no Start Date).
5. Select **Close Window**.

Print a Schedule Sheet

You can print schedule sheet columns and Gantt charts from the PDF of the schedule sheet.

To print a schedule sheet:

1. Navigate to your project/shell, and open the schedule sheet you want to print.
2. From the **File** menu, select **Print**.
3. Select the print options you want.
 - **All Columns:** Select to print all columns of the schedule sheet (default.)
 - **Gantt Chart:** Prints the current view of the Gantt chart (Gantt, Critical and Tracking.) This is checked by default.
4. Select **Print to PDF**.

Your browser may require you to confirm opening the PDF or saving the PDF. If saving the PDF, select Save. Browse to where you saved the file and open the PDF. If you select Open, an Adobe PDF opens with the schedule sheet.
5. From within Adobe PDF file, select **File**, and then select **Print**. The Adobe Print window displays.
6. For multiple pages of a schedule sheet, select **Tile All Pages** from the **Page Scaling** drop-down.

Note

This option is not available on older Adobe Reader versions. It is recommended that you upgrade to the latest Adobe Reader (free). If you have Adobe Acrobat or Adobe Professional, the Tile All Pages option will print multiple pages of the schedule sheet.

7. Select **OK**. To cancel the print, select **Cancel**.

Schedule Manager audit log

Each change in the Schedule Manager creates a record in the system, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

To view schedule sheet details in the audit log:

1. Navigate to the Schedule Sheets log in the Schedule Manager node.
2. In the **View** menu, select **Audit Log**.
You can review audit log entries for Date, Event, Action, Field, Old Value, New Value, User Name, Proxy User, and Attachments.

To view cell details in the audit log:

1. Navigate to the Schedule Sheets log in the Schedule Manager node and open a schedule sheet.
2. Under the **View** menu, select **Audit Log**.
You can review audit log entries for Date, Event, Action, Field, Old Value, New Value, User Name, Proxy User, and Attachments.

Note

If the Schedule Start Date is updated through a change in the linked project start date, the audit log will show an entry for the updated Schedule Start Date.

Set Schedule Sheet Baselines

A baseline is a set of original project/shell estimates. It consists of the following for a task:

- Start
- Finish
- Duration

Comparing multiple baselines provides insight into project health. With the original estimates, you can track the progress of a project/shell and compare its state at any given time. The system leverages the CBS code association between schedule sheets and earned value (EV) sheets to construct baseline comparison. The best way to do this is to:

- Create a corresponding detail-level EV sheet for an existing schedule sheet
- Create a summary EV sheet to compare selected baseline information

If you have access to the Earned Value Manager feature, refer to the *Unifier Earned Value Management User Guide* for more information.

You can save up to 11 sets of baselines in a single project/shell schedule sheet. You can use these various baselines as snapshots of your project/shell progress over time, with each baseline corresponding to key project/shell events.

The first baseline that you save is named Baseline. Subsequent baselines are named Baseline 1 through Baseline 10. The baseline sets are system-defined data elements that your

administrator has included on the Activity Attribute Form. When you set up the baselines, the values from the start, finish, and duration elements are mapped to the baseline set.

Note

The baseline columns are not required, but you must use all three of them, if you use them at all. You must use the complete baseline set of columns (start, finish, and duration) in your sheet. You cannot use one baseline column alone.

All baseline attributes are read-only in the schedule sheet. They can be modified only via the set/clear schedule sheet baseline actions. Users with the Edit Data and Structure permission on the schedule sheet can set or clear baselines.

Note

The Edit data permission allows you to import data.

All baseline attributes are read-only on the schedule sheet. They can be modified only via the set/clear schedule sheet baseline actions. Users with the Edit Data and Structure permission on the schedule sheet can set or clear baselines.

To set a baseline on a schedule sheet:

1. Open the schedule sheet in the log. If you modify the schedule sheet, you must save the sheet before you can set baselines.
2. From the **Edit** menu, select **Baseline**. The Set Baseline window opens.
3. Select the baseline to set. The **Set baseline** radio button is selected by default. Only baselines that have been designed in uDesigner are available.
4. Select **OK**. The values from the start, finish, and duration elements are copied into the corresponding baseline elements. If the baseline elements contain data, you will receive a warning that the baseline will be overwritten. You can choose whether to override the data.

To clear a baseline on a schedule sheet:

1. Open the schedule sheet in the log.
2. From the **Edit** menu, select **Baseline**. The Set Baseline window opens.
3. Select the baseline you want to clear.
4. Select the **Clear baseline** radio button.
5. Select **OK**.

Lock or unlock the schedule sheet structure

You can lock a schedule sheet. This locks the columns and activity rows, preventing editing of the sheet structure.

To lock or unlock a schedule sheet:

1. Open the schedule sheet.
2. From the **File** menu, select **Lock Structure** or **Unlock Structure**.

Linked schedule sheets

Linked schedule sheets are project/shell schedule sheets that are dynamically linked to a schedule sheet template. You must work with your Administrator to enable and setup the schedule sheet linking.

Linking is optional; it is useful if you have numerous project/shell schedule sheets to update simultaneously with the exact same information and structure.

Linked schedule sheets can be updated manually, but you can only make limited changes to dates and data.

You can change:

- Start and Finish dates
- Durations
- Schedule sheet properties; however, a linked template push cannot change sheet properties

You cannot:

- Add Activities
- Delete Activities
- Indent/Outdent Activities
- Import CSV, MPP
- Import with Overwrite or Merge (XML, WS)
- Modify Activity Name, Activity Codes
- Modify Scope Management Setup
- Cannot add /modify/delete columns
- Re-arrange (cut/paste) activities

The overall structure of the sheet (adding or deleting activities, for example) is updated only through the associated linked template. The Administrator must unlink the linked schedule sheets for you to be able to modify the structure of the sheet.

Note

Updating schedule sheets through linked schedule sheet templates can overlay the structure of schedule sheets and the data elements listed below. Be sure that you want the linked sheets to be updated to this extent by the template.

A linked schedule sheet template update to a linked schedule sheet can push:

- Changes to Activity Name
- Changes to Activity Codes
- Changes Activity Id (caused by re-ordering of activities)
- Addition of new activities or deletion of activities
- New or changed predecessor relationships

- Addition, deletion, or modification of column definitions
- Ordering of activities in sheet
- Changes to the indentation of activities

Note

Changes to dependent activity Start Date or Finish Date caused by changes such as modifications to predecessors or the addition or deletion of activities are handled dynamically by the schedule sheet

To view the linked template for a linked schedule sheet:

1. Navigate to the schedule sheet log.
2. Select a schedule sheet that is linked to a schedule sheet template.
3. From the **View** menu, select **Linked Template**. The Linked Template window opens.
4. Select **Close Window** when you are done viewing the linked templates.

To link existing schedule sheets to a link-enabled template:

You can link an existing schedule sheet to a link-enabled template. Linking an existing schedule sheet causes loss of existing data on the project/shell schedule sheet, including all activities, columns, and cell data. Project/shell schedule sheet properties, including the Schedule Start Date are retained.

1. Navigate to the schedule sheet log.
2. Select a schedule sheet that you want to link to a schedule sheet template.
3. From the **View** menu, select **Linked Template**. The Linked Template window opens.
4. Select **Add**. The Schedule Sheet Templates window opens.
5. Select a template, and click **Select**.
6. Click **OK** on the confirmation message that data in the newly-linked sheet will be modified when the update is completed using the link between the template and the sheet.
7. Click **OK**.

To unlink schedule sheets from a link-enabled template:

Unlinking removes the link between the schedule sheet and the template so no further updates can occur from the template.

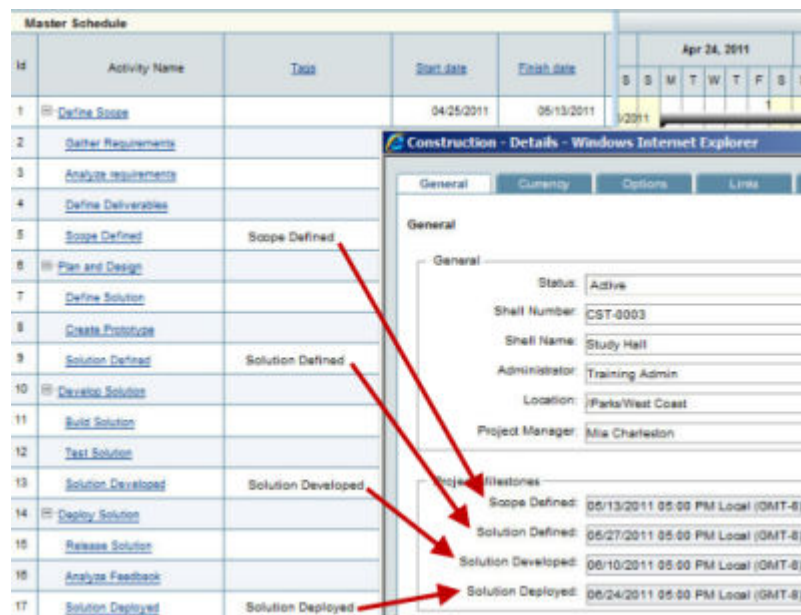
1. Navigate to the schedule sheet log.
2. Select a schedule sheet that is linked to a schedule sheet template.
3. From the **View** menu, select **Linked Template**. The Linked Template window opens.
4. Click **Remove**.
5. Select the template.
6. Select **OK**.

Linked tags and Business Process fields

Tags work with linked elements to connect schedule sheet activities with business processes, shells, and configurable manager objects. With this feature, you can view key activity dates, such as milestones, on forms like project details, without having to open the schedule sheet.

To select a link tag to populate a business process field:

1. Add a "Tag" column to the schedule sheet.
2. On the schedule sheet, select the row containing the activity you want to link.
3. Select the Tag column. The cell becomes editable.
4. Select the arrow, and select the tag you want to assign to this activity.
When you assign this tag to the activity, any form associated with this schedule that contains a linked element with a matching tag will now show the current value of that activity.



Search for schedule sheets

To search for a schedule sheet in the log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the **Schedule Sheets** log, select **Find**.
The Find box opens at the top of the log.
4. From the **Search By** list, select the field to search by.
5. Enter search criteria in the **Search for** field.
6. Select **Search**.

Activity Sheet (Integrated with an External Application) in Schedule Manager

Note

Integration with P6 application only applies to the CBS type Shell.

For more information about the Activity Sheet, refer to the *Unifier Earned Value Management User Guide*.

Additional information about an Activity Sheet integrated with an external application

- It is required that an Activity Sheet to have the following fields as fixed columns:
 - **Activity ID**
 - **Activity Name**

Note

You cannot remove the two required fields from an Activity Sheet.

- When an Activity Sheet Attribute Form is deployed to Unifier for the first time, all fields present in the Activity Sheet Attribute Form are saved and displayed as columns in the Activity Sheet following the same order.
- If you remove a field from an Activity Sheet Attribute Form and the Activity Sheet Attribute Form is deployed to Unifier, the deployment does not go through if the field that you had removed from the Activity Sheet Attribute Form is present as a column in the Activity Sheet; otherwise, the deployment goes through if the field that you had removed from the Activity Sheet Attribute Form is not present as a column in the Activity Sheet.
- If you add a new field to an existing Activity Sheet Attribute Form and the Activity Sheet Attribute Form is deployed to Unifier, the columns in the Activity Sheet do not reflect this change; you must manually add the field to the columns in the Activity Sheet.
- You can add columns to or remove columns from an Activity Sheet view.
- You can arrange the columns order in an Activity Sheet.
- You can find, sort, group, and filter Activity Sheets.
- The data within an Activity Sheet is synchronized with P6 by way of Gateway (Import/Export Synchronization) daily.

Note

Exchange of data with inactive CBS type Shells is not permitted whether initiated manually or by Gateway.

You can map the P6 CBS Code to the Unifier CBS Code (`bitemID`) in Gateway (in the field mappings).

When the Activity Sheet data is synchronized between P6 and Unifier, Unifier Provider converts the P6 CBS Code to the corresponding CBS Code (`bitemID`), and the Activity Sheet is populated automatically.

When the data is synchronized between Unifier and P6, Unifier Provider converts the Unifier CBS Code to the corresponding P6 CBS Code, and the Activity Sheet, in P6, is populated automatically.

The CBS auto-population works differently in Base commit, Change commit, and Payments with respect to other classifications that are under Cost type business processes.

The auto-population for the CBS Code occurs in Base Commit business processes and Change Commit business processes.

In Payments business processes, the CBS Code matches with the Commit line item of SOV, the CBS Code is auto-populated; otherwise, the CBS Code does not auto-populate.

- If there is only one Commit line item matching the CBS Code/Cost Code, the CBS Code will be auto-populated along with the Commit line item from the SOV, if the CBS Code/Cost Code matches with what is present in the SOV.
- If there is more than one Committed line item (where the CBS Code matches with the Activity picker), the value for the CBS code remains as it was.
- If the Activity picker is associated with a CBS Code that is not used by any of the Committed line items in the SOV, the value for the CBS code remains as it was.

You can change the CBS Code by selecting the CBS Picker, which will over-write the auto-populated value.

Gateway and Unifier Provider

The Activity Sheet object in Unifier must be available for integration through Gateway.

Note

The Activity Sheet object, in its entirety, must be available as a field in both Gateway and Unifier.

To synchronize data between a P6 Activity object and a Unifier Activity Sheet object, data mapping must take place. The following sections explain data mapping in detail.

Data Mapping Templates

About Data Mapping templates

When a project in Unifier is linked to a project in P6, each project retains their respective name, with no changes applied to the names.

Establishing a link between a project in Unifier and a project in P6 is based on a specific Data Element (uuu_int_p6_Project_id) corresponding to a specific P6 element (Project ID).

The following lists the out-of-the-box (OOTB) Data Mapping templates available for use and provides a description for each template.

Create Activity Sheet from P6

Use this template to map all the fields in the Activity Sheet to the P6 Activity object that is needed from P6. You can use this template to create a new Activity Sheet in projects.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute Form. By default, this template contains the first 24 pre-defined elements that are included in the Activity Sheet Attribute Form, and the fields are mapped to the corresponding P6 Activity object.

The following elements are excluded from this template:

- Primary Constraint
- Secondary Constraint

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

Update Activity Sheet from P6

Use this template to update an existing Activity Sheet in a project based on P6 data.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute Form. By default, this template contains 22 pre-defined elements that are included in the Activity Sheet Attribute Form, which cannot be populated by Reverse Auto-Population. As a result, the template does not contain the following elements:

- Actual Start
- Actual Finish
- Primary Constraint
- Secondary Constraint

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

Send Activity data to P6

Use this template to map those fields in the Activity Sheet Attribute Form to a P6 Activity object that might get updated in Unifier by way of a Business Process record. These fields need to be updated from Unifier to P6 through Gateway.

There are 26 pre-defined elements that are included in the Activity Sheet Attribute Form. By default, this template contains the 2 fields that can be populated by Reverse Auto-Population. As a result, the template contains only the following two elements:

- Actual Start
- Actual Finish

You can deploy custom activity attributes to Gateway and then add those attributes to this template.

Note

The fields in this template must be maintained exclusive of the fields in the "Update Activity Sheet from P6" template. There are no common fields between the "Send Activity Data to P6" template and the "Update Activity Sheet from P6" template. If you add the common fields to the two templates, inaccurate information can be generated in either application (Unifier or P6).

Editing Data Mapping templates

You can edit (take out a field or add a new field) any of the Data Mapping templates mentioned in this section by going to Gateway, selecting Configuration, and then selecting Customization.

1. From the Customization window, select the "Activity" business object from the "Select Business Object" drop-down list to see all Data Mappings, based on the "Activity" object.
2. Select any Data Mapping template.
3. Select **Edit**, and go to the **Mappings** tab.

4. Add a new field, to exchange data for example.

You can add any custom field to an Activity Sheet Attribute Form in uDesigner and Deploy the Activity Sheet Attribute Form to Gateway. All the fields from the Activity Sheet Attribute Form appear in Unifier (P6 Activity Sheet drop-down list). As a result, you can select any Activity Sheet Attribute Form that you have defined in Unifier and map the Activity Sheet Attribute Form to a corresponding activity field (fixed field or user-defined field) in P6; however, ensure that you map the Unifier element to the Activity Sheet Attribute Form in a way that the "Data Types" of the P6 Activity elements match the Data Definitions (DEs) of the Activity Sheet Attribute Form. The following shows the mapping of data between the P6 Data Types and the corresponding DEs.

P6 Data Type	Corresponding Unifier Data Definition
Text (40 chars)	SYS Short Description Text 50
Text (120 chars)	SYS Short Description Text 120
Text (UDF* Fields)	SYS Short Description Text 255
Date	Date Picker
Cost	Currency Amount
Number	Decimal Amount
Integer	Integer Amount
Indicator	SYS P6 Indicator
	 Note In the Edit window of the Data Mapping template, Gateway does not display "Indicator" as an available field type. As a result, you need to map an "Indicator" type field from Unifier to P6 UDF and set the "Data Type" as "String."
Activity Status Pulldown	SYS Short Description Text 50
Activity Type Pulldown	SYS Short Description Text 50

*UDF: User-defined Field

Additional information about editing Data Mapping templates

In P6 some activity attributes fields, cannot be updated manually, or by way of any other methods. These fields must be calculated using the P6 internal logic. If you modify the "Send Activity Data to P6" Data Mapping template to map to a P6 activity attributes field that cannot be updated, then:

- The P6 internal logic prevents the mapping during integration and synchronization will fail.
- The data in P6 is updated incorrectly.

Ensure that you are aware of the limitations when you add a new field to the "Send Activity Data to P6" Data Mapping template.

Since the "Actual Finish" field is added to the "Send Activity Data to P6" Data Mapping template and based on the value of the "Activity Type" field in P6, the "Actual Finish" field gets calculated, in P6, you must not keep the "Actual Finish" field in the "Send Activity Data to P6"

Data Mapping template. Instead, you must keep the "Actual Finish" field in the "Update Activity Sheet from P6" Data Mapping template.

In short, you need to keep, or designate, only one application as the source for each field. This is to prevent a field to get updated in both applications.

Business Flows

The Unifier Provider allows you to filter Shells using "Project IDs." You can do this filtering in two ways:

- By entering a fixed list of comma-separated Project IDs values (corresponding to each Shell), and when you synchronize, all the Projects that match those Project IDs are pulled.
- By using any Shell attribute (custom or system defined). When Object = Project, you can go to the "Source App Parameters" window and add filter conditions to a synchronization, using any data element of "Data Type = String" or "Data Type = Integer" from a Shell Attribute Form. The "Field" drop-down lists in the Edit Business Flow window have an option called "Shell Attribute." You can:
 1. Select **Shell Attribute**.
 2. Use the information presented (in the **Value** box) to enter any Shell attribute DE name of Data Type = "**String**" or "**Integer**."
 3. Select **Add Row**, and set the item as a condition to filter the Unifier Shell.

Note

- You can set only one value for a Shell attribute within a given condition; however, you can add more than one condition for a Shell attribute.
- If you set conditions for a DE which is neither "Text" nor "Integer," the synchronization will fail and you will receive an error message.

There are two templates available for OOTB Business Flows:

- **Get Activity data from P6**
 - To create Activity Sheet in the Unifier Projects.
 - To update an existing Activity sheet.
- **Send Activity data to P6**
To transfer, or push, data from a Unifier Activity Sheet object to a P6 Activity object.

Note

For more information, see [Data Mapping Templates](#).

The "Import Project data" flow ("Send Activity Data to P6" flow) has the Data Mapping template the "Send Activity Data to P6" set as "Update" only to prevent the accidental creation of activities in P6 from Unifier. P6 is the source for all activities.

Synchronization

The synchronization of the following two commands (on the OOTB Data Mapping templates) is scheduled to run *daily*:

- **Get Activity Data from P6**
- **Send Activity Data to P6**

Note

For more information, see [Data Mapping Templates](#).

Synchronization can be performed:

- From Unifier by executing the "Get Data" or "Get Activity Sheet Data" commands from the "Activity Sheet" log or the Shell log.
- From Gateway, manually.

The Unifier Provider performs a check to see if the Unifier Project is linked to the corresponding P6 Project.

- If the Project is not linked to the corresponding P6 Project, you must establish the link.
- If P6 does not have a corresponding project, a message will notify you that the project has not been created in P6.

To ensure a successful synchronization, do the following:

1. Set the Shell attribute DE = uuu_integrated_with to P6.

Note

If the attribute was missing, after this setup the integration will take place.

2. Receive the Activity Sheet data from Gateway and:

- If an "Activity Sheet" does not exist in Unifier, create the "Activity Sheet," populate the fields with the data received, and name the sheet as: <P6 project name>.
- If an "Activity Sheet" exists, update the "Activity Sheet" with data from Gateway.

You only need to perform the steps above to create the "Activity Sheet" within Unifier Shells the first time. After you create an "Activity Sheet," the hourly synchronization updates the "Activity Sheet" with the latest data received from Gateway.

When projects between Unifier and P6 are linked for the first time, Gateway ensures that a P6 Project attribute that is integrated is checked.

If a "Get Activity Data from " synchronization is performed, but the P6 Project that must correspond to the Unifier Project is not found by Gateway, the system will generate an error message.

Sending Activity Sheet data to P6

When you synchronize, the Unifier Provider performs the following:

- Checks to ensure that the Unifier Project contains an "Activity Sheet."
 - If an "Activity Sheet" does not exist, the system generates an error message.
 - If an "Activity Sheet" exist, you can continue on with pulling (receiving) data.

- Pull all updated "Activity Sheet" data by way of Reverse Auto-Population since the last "Send Activity Data to P6" synchronization. You can send the updated "Activity Sheet" to Gateway in Portable Database Image (PDI) format.
 - If the "Activity Sheet" has not been updated by way of Reverse Auto-Population, you do not need to send data to P6.
 - If you add a DE to a Data Mapping template that is read-only in P6, the system generates an error message.

Additional information about synchronization

- If an Activity Type, in a Schedule, is set as "Start Milestone," P6 does not allow you to update the "Actual Finish Date." If you proceed with updating the "Actual Finish Date," you generate inconsistent data.
- If an Activity Type, in a Schedule, is set as "Finish Milestone," P6 does not allow you to update the "Actual Start Date." If you proceed with updating the "Actual Finish Date," you generate inconsistent data.
- You must define the filter condition before you filter the Unifier Project using the "Send Activity Data to P6" synchronization command.

Note

If a filter condition is defined in Business Flow, but a filter condition is not defined in the synchronization, Gateway will not know which Project to send data from. As a result, filter condition must be defined within the synchronization itself.

Connectivity issues with Gateway or incorrect Gateway parameters will cause synchronization to fail. Use History, Admin mode, to see the list of failed synchronizations, if any.

Criteria for successful data exchange

Ensure that the fields ("Update Activity Sheet from P6" and "Send Activity data to P6") in the Data Mapping templates are not overlapping and a field that is set to map from P6 to Unifier is not added to the "Send" template.

Note

The OOTB Data Mapping templates are designed in a way that the fields are exclusive; therefore, when you edit a Data Mapping template, ensure that you keep the fields that are exclusive intact.

If you use DE = uuu_int_p6_project_id for linking P6 and Unifier projects, when the "Project ID" field in P6 is updated, the "P6 Project ID" (uuu_p6_project_id), field in corresponding Unifier Shell, must be updated manually.

UDR, Data Views, and ER View

You can access and open an "Activity Sheet" in Unifier by way of User-Defined Reports (UDRs), Data Views, and ER views.

The new Data Type that you need to use for creating UDRs is the "Shell Activity Sheet."

Using Schedule Sheets

Before you begin: [Schedule Sheet permissions](#) are granted on a sheet-by-sheet basis. Adding or editing an activity requires **Edit Data** or greater permission. If you only have **View** permission, you cannot add or edit activities. The Schedule Manager helps you manage project/shell schedules by:

- Creating project activities
- Assigning cost codes to activities
- Assigning roles to activities
- Creating relationships between activities
- Tracking schedule progress and variables
- Calculating the schedule's critical path

Note

The Schedule Manager feature was deprecated starting with version 23.5. However, if you have access to it, you can continue to use it with existing configurations, but you cannot create Schedule Sheets.

In Unifier, you can also import project schedule records from Primavera P6. Imported schedules are editable and the data can be used in reports. If you copy activities from one schedule to another, the system will immediately notify you if the change will create a schedule conflict so that you can make corrections as you work.

Each change in the Schedule Manager creates a record in Unifier, which is useful for auditing purposes. An audit report of these records shows detailed information on dates, events, actions, and old values versus new values, along with the user or proxy user who performed the action.

Each project can have multiple schedule sheets, and one Master Schedule Sheet. The master schedule sheet drives project start and end dates, tracks the project's progress, and serves as the interface between the Schedule Manager and other modules. The master schedule integrates cost items on the schedule with the Cost Manager. Users can refresh resource rates on the schedule sheet and post the new rates to the Cost Manager, update the cost sheet with assignment costs, and refresh costs on the sheet to recalculate labor costs and post them to the cost sheet.

Features include the following:

- Fully configurable activity attributes form
- Activities and Gantt chart on the same schedule sheet
- Interactive Gantt chart with ability to drag activity end dates and link activities
- Tracking Gantt chart
- Filters for activities
- Baselines for schedule sheets and activity sheets
- Activity update
- Support for existing integration of Schedule Manager with the Resource Manager, enabling resource loading of schedule activities

- Multiple CBS codes for each activity to capture activity costs, such as labor, non-labor, and fixed costs. If the existing design supports it, you can add a column to the schedule sheet to display the CBS codes associated with each activity.
- View the cost distribution information by CBS codes from a schedule sheet
- Cut and paste and copy and paste of rows in a sheet
- Update of schedule sheets from linked templates
- Critical path calculation and display
- Streamlined and enhanced integration and interaction between Unifier's Schedule Manager and Primavera and Microsoft Project
- Activity progress tracking and percentage of work completed per assigned resource
- Works with shells that have the CBS cost type
- Scope Management, with the ability to launch business processes from activities and automate schedule management.
- Budget and progress settings, and the ability to work with progress and earned progress data

You will need to add activity rows to the schedule sheet before you can enter your company data to the schedule sheet.

Scope Management

Scope Management defines deliverables, responsible roles, actual assignees and their schedules, and drives coordinated production of these deliverables. Scope Management initiates actions for producing deliverables based on the completion of dependencies. It routes them to the responsible person or group, monitors their completion, and updates deliverable statuses automatically. It manages different activities across schedules for different team members simultaneously.

Team members work on BPs that are linked to activities in a schedule sheet. Scope Management allows you to use existing Schedule Manager functionality with added data elements to automate the management of a project's scope and schedule with all associated activities, tasks, and deliverables. This feature provides project managers with the ability to manage each scope item's task assignments, ownerships, and durations.

Note

The Schedule Manager feature was deprecated starting with version 23.5. However, if you have access to it, you can continue to use it with existing configurations, but you cannot create Schedule Sheets.

Project managers can use scope management to manage high-volume, quick turnaround projects that have standardized scope and scheduled activities. Examples of projects that would benefit from the use of scope management functionality are retail construction projects such as bank branches or chain fast food restaurants. Scope management capabilities are also useful for large capital projects with complex scope and schedules, and that have numerous dependent activities and milestones with associated tasks and deadlines.

Scope management:

- Coordinates the creation of the defined deliverables using the schedules of the various assignees
- Automatically moves tasks to the next assignee.
- Routes tasks related to the deliverables to the next responsible assignee (person or group), monitors the state of the tasks, and updates deliverable status automatically. Actions for the creation of deliverables are based on fixed-time durations and the completion of dependencies.
- Launches business processes that are linked to activities

This functionality can be enabled on any schedule sheet, including a master schedule sheet. Scope management enables you to link BPs with schedule sheet task activities and route those BPs with an automatic update of status as they are routed and worked on. The BPs represent the work that needs to be done to complete the task. You can override automatic routing at any time and launch the BPs manually. The BP-related task is completed when specified conditions are met.

Working with Schedule Sheets with Scope Management

You can have any number of schedule sheets. There is one master sheet, which appears in bold in the log. The master schedule sheet drives the activity start and finish dates. You can use it to track progress and resource assignment information to other modules. You can use scope management on any existing schedule sheet. You must have the correct permissions to be able to view and modify scope management data. If you find that you cannot access the functionality that you need, see your company administrator.

To access project schedule sheets:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**. The Schedule Sheets log opens. By default, the log lists all active schedule sheets.
3. To view all active and inactive sheets, from the **View** menu, select **All**.

Scope management and multiple calendars

In Scope Management a business process record can be created from an activity based on the setup. As part of setup, you can define how the system should calculate the workflow duration of the business process record that gets created.

These are the following options:

Enforce Activity Duration:

System will take the planned duration of the activity and will pass it to business process record to calculate workflow due date and the workflow duration. With multiple calendars, it is possible that the activity has a different calendar than the calendar used on business process (which was the project/shell calendar). In this scenario, the system will take the duration from the activity and calculate the record/workflow due date based on business process calendar.

Enforce Activity Finish Date:

System will set planned finish date as the workflow due date. With multiple calendars, it is possible that the activity has a different calendar than the calendar used on business process (project/shell calendar). In this scenario system will take planned finish date of activity and force it to due date of business process record.

In both cases when progress comes back from business process record to the activity, the system will take the actual end date and updates activity actual finish date. In this scenario, the system will not consider activity calendar.

Manage scope management properties

Scope Management functionality can be enabled on any existing schedule sheet (including master schedule sheets). You can modify the properties associated with scope management. These include:

- Auto-control
- Schedule start date
- Error notification to users and groups

To manage scope management properties:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Properties**.
4. On the **General** tab, complete or modify the fields described in the following table, and then select **OK**.

In this field:	Do this:
Auto-control	Controls the automatic update of tasks. The default is Off. Setting auto-control to On enables the automatic launch of BP records. Setting auto-control to Off means that BPs will not be launched automatically on activities and completion conditions will not be checked on activities. Users can still launch BPs manually. Note The system disregards predecessor/successor dependency relationships when you manually start an activity, even if auto-control is set to On in the schedule sheet properties.
Schedule Start Date	Drives the dates of floating activities on the schedule sheet. Activities cannot begin before this date, unless their preceding activities complete previous to this date.
Notify users and/or groups on errors	Select users and groups to be notified if there are errors during the scope management task routing.

About scope management data elements

There are data elements that are specific to scope management, which were added to the Schedule Attribute Form in uDesigner. These data elements can be added to the scope management schedule sheet as columns as you work with the sheet. If data elements are on both the Schedule Attribute Form and on the business process that you will be using to run the

activity task for scope management, the values are copied from the form to the business process and conversely.

When you are planning to use scope management, consult with the uDesigner user and your company administrator to achieve the setup of data elements and business processes that will meet your business needs for managing scope.

The scope management-specific data elements that are added to the Schedule Attribute Form are:

Data Element Name	Description
Actual Start Date	Actual start date of the activity.
Actual Finish Date	Actual finish date of the activity.
Actual Duration	Actual duration of the activity. This is calculated from the Actual Start Date and Actual Finish Date.
Status	Activity status. The default is Not Started.
Predecessors	A list of the predecessor activities. Note Activities that have no predecessors are known as floating activities.
Record Number	Hyperlink to the linked business process record.
Record Status	Hyperlink to the linked business process record.
Estimated Start Date	Calculated date.
Estimated Finish Date	Calculated date.
Estimated Duration	Calculated duration.
Auto-update Activity Data	Enables the automatic update of activity data. The default is unchecked. If this checkbox is not selected, the activity must be completed manually, and automatic completion will be turned off. This means you must change the activity status to compete and enter an actual finish date.
Linked BP Name	Name of the linked business process.

Set up scope management for activities

You can set up the schedule sheet activities to link to BPs, specify responsible users or groups, enter a due date, and create completion conditions.

You can change all setup options for activities that have the status of not started or not applicable. For activities that have an in-progress status and have a linked BP record, you can change only the completion conditions. You cannot change setup options for activities with the status complete.

To set up scope management for an activity:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.

- 4. Select an activity in the sheet.
- 5. From the **File** menu, select **Setup Scope Management**.
The Activity Task Setup window displays on the right side of the pane, replacing the view of the Gantt portion of the window.

 Note

You can return to the Gantt chart view by selecting the **Gantt** button.

- 6. Complete the **Activity Task Setup** portion of the window as described in the table below.
- 7. Repeat these steps for each activity.
- 8. Select **Save** when your changes are complete.

In this field:	Do this:
Linked Business Process	Select a project/shell level workflow BP that will launch from the activity.
Bypass initiation step during auto-creation	Auto-created records normally appear in users' Tasks and BP logs as an initiation step (I Step). Select this checkbox if you want to bypass the I step that this auto-creation normally creates. If you select this option, the auto-created record will skip the initiation step and will appear in the user's BP log at the step that the Administrator designated on the BP's Auto-Creation tab during setup.

In this field:	Do this:
Record Due Date	Select Enforce Activity Duration (default) or Enforce Activity Finish Date. When a BP is launched automatically or manually from an activity, you can specify whether the record due date on the newly launched BP record is set to use the activity duration or the activity finish date. Enforce Activity Duration: The finish date of the activity is not considered. If the Record Due Date option is set to enforce the activity duration, the value is calculated as: Record Due Date = Current Date (date/time) + Activity Duration (days) Enforce Activity Finish Date: If the Record Due Date option is set to enforce the activity finish date, it is calculated as: Record Due Date = Activity Finish Date  Note This functionality applies to workflow BPs launched from Scope Management only. Non-workflow BPs cannot be launched using Scope Management. If you select Enforce Activity Finish Date, the workflow due date for the business process might be affected. Be sure to select Yes for Override Workflow Due Date in the workflow setup for the affected business process.
Responsible User(s) /Group(s)	Select one or more users or groups to which to route the business process. Be sure to add users and groups to this field so the business process associated with the activity will launch properly.
Completion Conditions	Add one or more conditions to indicate the completion condition on the activity. Select Add and select from the data elements for the selected BP, enter a label for the condition data element, select a condition, and select a value. Select OK . Conditions can be a BP status, a monetary value, or the completion of certain predecessor activities. You set up several completion conditions for each activity. See Completion Conditions for details.
Show results matching ANY condition	Select to complete the activity if any of the completion conditions are met for the activity.

Completion Conditions

You can set up completion conditions for a string or a date.

For example, for the string *City*:

Add Query Condition

Data Element: City

Condition: contains *

Values

Data Element: ☒ -Select-

Constant: ☐

OK

Cancel

For example, for a date:

Add Query Condition

Data Element: Due Date
Condition: equals

Date

Data Element: -Select-
Date:
Today:

Add/Subtract days: Plus

Number of days

Data Element: -Select-
Days:

OK Cancel

Launching Business Processes from Activities

While the scope management functionality is automatic after it is set up, you can also manually launch or remove BPs from activities and manage the activity properties.

Note

If a project/shell changes status from Active to View-Only or Inactive, business processes associated with activities are not launched while the project/shell has the View-Only or Inactive status. When the project/shell reverts to Active status, you must adjust the dates on these business processes and launch them manually.

Manually launch a business process

When you manually launch a BP associated with an activity, you override the Auto-control property setting. See [Manage scope management properties](#) for details on properties.

See [About Launching or Removing Business Processes from Activities](#) for details on the conditions under which you can manually launch BPs.

To manually launch a BP associated with an activity:

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select an activity in the sheet.
5. From the **Edit** menu, select **Linked Business Process**, and then select **Start**.
You can select one or more BPs and launch them. They will be routed to the assignees that have been specified.

Remove the link between a business process and an activity

You can remove (unlink) a BP from an activity. See [About Launching or Removing Business Processes from Activities](#) for details on the conditions under which you can remove BPs from activities.

To remove the link between an activity and a BP:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select an activity in the sheet.
5. From the **Edit** menu, select **Linked Business Process**, and then select **Remove Record**.
You can select one or more BPs. The BP itself is not deleted.

Note

The link between a BP and an activity is automatically removed if the BP is terminated. When a linked BP is terminated, the BP hyperlink is removed from the associated activity, and the activity is set to not started.

Update activity properties

To update activity properties for scope management:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select the link for the applicable activity in the sheet.
The Activity Properties window displays.
5. Modify the activity properties as needed.
The properties shown in the Activity Properties window depend on the design configured in uDesigner. Activity properties associated with scope management can include what is shown in the table below.
6. Select **OK**.

Property Name	Definition
Activity Statuses	Read-only for automatically controlled activities. Editable for manually controlled activities. The statuses are: • Not Started: All activities have this as the initial status by default. Indicates that the BP linked to the activity has not yet been launched. • In Progress: Indicates that predecessor activities are complete and that the current activity is not started. A new BP record is created and linked to the activity. Note You cannot modify certain activity attributes while an activity is In Progress. • Complete: Indicates that an activity is complete based on the completion conditions set up for the activity.
Linked BP Name	Read-only; displays the BP linked to the activity.
Record Number	Read-only; displays the current record number that is linked with the activity.
Record Status	Read-only; displays the current status of the BP record linked to the activity.
Actual Start Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is launched for the activity.
Actual Finish Date	Read-only or editable, depending on the setting for the Auto-update activity data box. This value is set when the linked BP is completed based on the completion conditions.
Estimated Start Date	Read-only; indicates the estimated start date for the activity.
Estimated Finish Date	Read-only; indicates the estimated finish date for the activity.
Auto-update activity status	The default is not selected. Indicates if the current activity is automatically controlled or manually controlled.
Dependencies	Read-only; lists the predecessor activities for the current activity using a coding format indicating lag and lead time: Finish to Start (FS), Start to Start (SS), Finish to Finish (FF), and Start to Finish (SF). For example: 3FS + 3d (Activity 3 is a predecessor with FS relationship with 3 days lag) 2SS - 1d (Activity 2 is a predecessor with SS relationship with a 1 day lead) An activity can have multiple dependencies separated by a comma. The value is updated every time there is an addition or change to the predecessors.

Status Transitions and Activities

Scope management activities have statuses that control the transition of the activity from one state to another as it progresses toward completion. You can perform certain changes to the activity during its progress, but it can be limited as to what you can change while an activity has the status In Progress. The activity status transitions vary depending on whether an activity is automatically or manually launched.

Automatic activity status transitions

When activities are auto-controlled (the Auto-update Activity Status box is checked), activity status is read only. The statuses automatically transition as follows:

- **Not started** (default)
- **In progress** (this is when the linked BP is launched)
- **Complete** (when the BP completion conditions are met)

Manual activity status transitions

You can change the activity status manually when the Auto-update Activity Status box is not checked. You can change the status during any of the states (not started, in progress, or complete).

- If you change the status of an activity to In Progress, you can enter the actual start date. This clears the existing actual finish date.
- If you change the status of an activity to Not Started, both the actual start date and the actual finish date are read only.
- If you change the status of an activity to Complete, you can enter an actual finish date. In this case, the actual start date, if it is not populated, is set to the actual finish date at activity completion.

About Launching or Removing Business Processes from Activities

Scope management functionality enables manual creation of business processes (BPs) from activities on a schedule sheet. A new BP record can be created for every eligible activity. The BP record will be permanently linked to the activity, unless you terminate or remove the BP. An activity can be linked to only one BP record at a time. Any two activities cannot link to the same BP record.

Automatic launching of business processes

For BPs to launch automatically from activities, these conditions must be met:

- **Auto-control** must be set to **On** on the Schedule Sheet properties
- Activity is not manually controlled, which means that **Auto-update Activity** is selected
- Activity has a BP setup
- Activity has the status **Not Started**
- Activity has no predecessors or the predecessors are all in **Complete** status
- The **Start Date** for the activity is not in the future

Manually launching business processes

You can launch BPs manually by selecting an activity and choosing **Edit**, selecting **Linked Business Process**, and then selecting **Start**. To manually launch BPs, these conditions must be met:

- Activity has the status Not Started
- BP setup is present on the activity

Note

A BP can be launched manually to override the setting of the Auto-control flag on the Schedule Sheet Properties and Auto-update Activity Data on the Activity Properties.

Manual launch under various conditions:

Auto-control on Schedule Sheet Properties	Auto-update Activity Status on Activity	System Behavior
On/Off	Checked	Manually launched BP is tracked by the system, and actuals will be auto-populated on launch and completion.
On/Off	Unchecked	Scope Management will not keep track of BP completion and auto-population of actual start and finish dates of manually launched BP.

Manually remove business process link

You can remove a linked BP record manually if these conditions are met:

- Activity is in manual mode; that is, Auto-update Activity Status on Activity is unchecked
- Activity is in any status.

Automatic removal of business process link

If a BP is terminated by the user, the termination removes the BP link from the activity and sets the activity back to Not Started.

About Activity Completion

This section covers the criteria for automatic and manual completion of scope management activities.

Conditions for the automatic completion of activities

The system checks the linked BP record workflow for in-progress status activities that are not manually controlled (Auto-update Activity Data box is checked for the activity).

When the system detects BP completion based on the conditions, it performs the following actions:

1. **Actual finish** is updated with current date
2. **Activity status** is updated to complete
3. Success of activities is evaluated for the automatic launching of further BPs

If there is no BP setup or if the activity is manually controlled, the system does not evaluate the BP completion conditions but waits for you to manually complete the activity.

Conditions for the manual completion of activities

Activities that are manually controlled (**Auto-update Activity Data** box is unchecked) can only be completed manually. In this case, you must change the activity status to **Complete** and enter the actual finish date, which is required for the activity to complete successfully.

About Manual or Automatic Control of Individual Activities

This section describes the behavior of manual and automatic control of scope management activities.

Auto-update activity data on activity attributes

Activities can be controlled in two modes: automatic or manual. This choice depends on the value of the Auto-update Activity Data checkbox.

If **Auto-update Activity Data** is checked, automatic launching of BPs and completion checks with the possibility of launching the BP sooner.

If **Auto-update Activity Data** is unchecked (default value), the user has manual control, but basic scope completion rules are enforced. BP link is maintained. New BPs can be launched manually. The BP is not checked for completion.

The following table summarizes the behavior in each mode:

Behavior	Automatic	Manual
Auto-update Activity Data checkbox	Checked	Unchecked (default)
BP setup allowed	Yes	Yes
Create BP record link	Yes	Retain existing link if any exists
BPs launched by scheduler	Yes	No
Manual BP launch	Yes	Yes, but completion and actuals are not tracked
BP condition check	Yes	No
Scope status updated	Updated by system	Manual update via drop-down list choice
Scope status update rules enforced	Yes	Yes
Actual dates	Automatic	Manual

Rules for modifying the Auto-update Activity Data checkbox

These are the rules for using the Auto-update Activity Data checkbox.

- The Auto-Update Activity Data checkbox is deselected by default for all schedule sheets.
- As soon as a new BP is set up for the activity (by going to the **File** menu and selecting **Setup Scope Management**), the Auto-update Activity Data checkbox will be selected only for activities in the Not Started status.
- Updating the BP setup on an activity later will only select the Auto-update Activity Data checkbox automatically if the activity is in the Not Started status. If you have not set up any BP linking, by default, the box is unchecked. In that case, you can update the Actual Start, Actual Finish, and Status fields.
- You can manually modify the Auto-update Activity Data checkbox for any activity status, including complete.

System behavior when the Auto-update Activity Data checkbox is modified

The following is the sequence of the system behavior when the Auto-update Activity Data checkbox is modified:

1. The Auto-update Activity Data checkbox is deselected by default, assuming that no BP setup exists for the activity. As soon as a new BP is set up or modified for the activity, the Auto-update Activity Data checkbox is checked.
2. Deselecting the Auto-update Activity Data checkbox will:
 - a. Retain the BP record link (if any).
 - b. Retain the original status of the activity.
 - c. Change the activity status of an editable field.
 - d. Retain existing actuals but allow them to be modified.
3. Subsequent selecting of the Auto-update Activity Data checkbox will:
 - a. Retain the BP record link if it exists.
 - b. If a BP record link exists, update BP record status on the activity, and check the BP record for complete condition and set the appropriate status of the activity (either Complete or In Progress).
 - c. If a link does not exist and conditions allow the start of the BP, the system launches the BP and sets the activity status to In Progress.
 - d. If a link does not exist and conditions do not allow the start of the BP, the system sets the activity status to Not Started.

Note

Setting the status to Not Started or Not Applicable in manual control mode does not clear the BP record link. The actual start cannot be a future date when entered manually, and the actual finish cannot be a future date when entered manually.

Impact of Schedule Start Date

The schedule start date on schedule sheet properties defines the earliest possible date on the schedule sheet. The start dates of all activities on the schedule sheet must be greater than or equal to the schedule start date.

The schedule start date affects the first activity in a group of linked activities and controls the start of any floating activities. Floating activities are activities that have no predecessor activities.

When you change the schedule start date, the entire schedule moves, and all the dates adjust in relation to the new schedule start date.

The schedule start date is a required field on schedule sheet properties. Updates to the schedule start date start activities are based on following rules:

- Floating activities start and retain the offset from the schedule start date specified on the sheet properties.
- The start date on floating activities can be updated; however, the activities start date cannot be earlier than the schedule start date.
- The start date of any floating activity will drive the start of the system update process. Each floating item may be the root of a tree and hence will have its own system update process that drives launching and completion of BPs for the current activity and successor activities.
- Forecast dates (start date, finish date) can only be changed for not started or in-progress activities.
- The schedule start date cannot be changed when at least one activity is in progress or complete.
- Manual launch cannot be done on any activity before the schedule start date on the sheet properties.

Calculation of Estimated Start and Finish Dates

Estimated dates are used to predict the effect of delayed or early completion of predecessor activities on successor activities. They are useful to identify potential problems or the potential for schedule compression.

The estimated start, finish, and duration are read-only elements calculated by the system. They are updated by the system each time activities complete. Succeeding estimated dates are adjusted based on the logic below.

For completed or predecessor complete activities:

- Estimated Start Date = Actual Start Date
- Estimated Finish Date = Actual Finish Date

For in-progress or not started activities:

- Estimated Start Date = Predecessor (latest) Estimated Finish Date
- Estimated Finish Date = Estimated Start Date + Forecast Duration

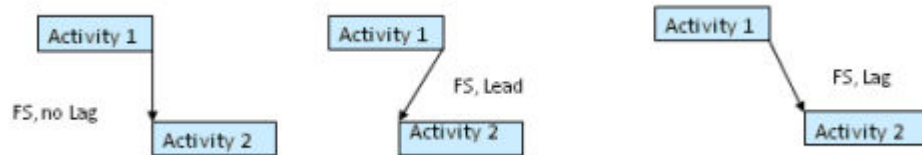
Impact of Successor and Predecessor Activities on Launching and Completion of BPs

This section discusses the interaction of activities and the launching of BPs. The start of an activity is affected by whether there is a lag or a lead, as shown in the examples below.

Finish-to-start (FS)

The successor activity is launched when the activity completes or the Calculated Date = Predecessor Actual Finish + Lag (if not already past).

In case of a lead, the successor activity is launched on the forecast start date (similar to a floating activity).

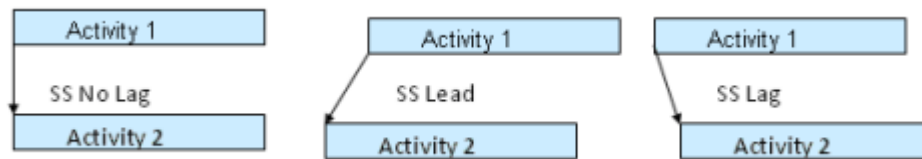


Finish-to-start

Start-to-start (SS)

When an activity's predecessor is started (for example, status = in-progress), it is also placed into an in-progress status (assuming zero lag).

- **Lag:** Success, or activity will be started on forecast date
- **Lead:** Success, or activity will be started on forecast date



Start-to-start

Finish-to-finish (FF) and start-to-finish (SF)

The activities will be treated as floating activities. They are launched on their forecast date.

- **Lag:** Success, or activity will be started on forecast date
- **Lead:** Success, or activity will be started on forecast date



Finish-to-finish, start-to-finish

Entering and Viewing Cost Data

In uDesigner, data elements can be added that allow you to enter and view cost data on schedule sheets. These data elements are Activity Cost 1 (and Activity Total Cost 1 Per CBS) and Activity Cost 2 (and Activity Total Cost 2 Per CBS). The Cost and Per CBS data elements

have a predefined association between them. Also, the Activity Latest Progress As Of data element can be added to allow you to track the date of the last change to an activity.

Note

Unifier refreshes the cost data when you go to the File menu, select Refresh, and select Cost in a Schedule Sheet and refresh immediately or set up a refresh frequency. See [Refreshing Schedule Sheet data](#) for details.

In the activity setup performed by the Administrator, one or more CBS Codes can be associated with an activity. The value carried by the Total Cost data element on add to a Schedule Activity Attribute Form gets passed onto these CBS codes as the result of calculations such as data roll up to a Cost Sheet, or earned value calculations. The logic used by the Activity Cost 1 and Activity Cost 2 and the associated Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements is based on the association of an activity to a CBS code.

The values for Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements are calculated by the system based on the corresponding Activity Cost 1 or Activity Cost 2 data element values.

These are the steps the system follows to calculate values for Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data elements:

1. If the combination of Cost and Per CBS data elements are used on a Schedule Activity Attribute Form, the system will scan through all the activities and associated CBS codes.
2. The system will accumulate all the values in the Activity Cost 1 or Activity Cost 2 data elements for all activities per CBS code associated with each activity.
3. Use the total value calculated in step 2 per CBS code as the value for each Activity Total Cost 1 Per CBS and Activity Total Cost 2 Per CBS data element specified for each activity.
4. Each activity gets a total value calculated in step 2 based on the CBS code associated with it.

The following example explains these calculations. For this example, the data elements Activity Cost 1 and Activity Total Cost 1 Per CBS have been added to the attribute form:

Activity Name	Activity Cost 1	Activity Total Cost 1 Per CBS
Control Account 1	\$28,000.00	
Control Activity 1.1	\$19,000.00	
Control Point 1.1.1	\$10,000.00	\$28,000.00
CBS - 1	\$10,000.00	
Control Point 1.1.2	\$9,000.00	
CBS - 1	\$9,000.00	
Control Activity 1.2	\$9,000.00	
Control Point 1.2.1	\$5,000.00	\$28,000.00
CBS - 1	\$5,000.00	
Control Point 1.2.2	\$4,000.00	
CBS - 1	\$4,000.00	
Control Account 2	\$20,000.00	
Control Activity 2.1	\$20,000.00	
Control Point 2.1.1	\$8,000.00	

CBS - 2	\$8,000.00	
Control Point 2.1.2	\$12,000.00	\$20,000.00
CBS - 2	\$12,000.00	

In the above example, Control Point 1.1.1 has a value \$28000.00, which was arrived at by adding the value of CBS - 1 across all activities.

Effects of multiple calendars

Activities can be affected by calendar selection, if there are multiple calendars implemented. There can be a Calendar column in the activity sheet, for example. This column will allow to select a calendar per activity as needed. If this column exists, you can select from the Company level calendars and Project/Shell calendars as permissions allow. Any defined Custom calendars (which are defined for the Schedule Manager at the project/shell level) are not available for selection on the Activity Sheet.

If you are using an Activity Attribute Form designed in uDesigner to manage activities, the data element `uuu_activity_calendar` can be added to the form so users can select calendars. If you are not using a designed Activity Attribute Form (are letting Unifier use the default form provided), the data element `uuu_activity_calendar` is automatically included in the Activity Attribute Form.

When activities are updated through the Activity Sheet, they consider the calendar in use for the activity. The Start Dates, Finish Dates and Durations can be affected by the calendar used for an activity. Double-click the Calendar cell to see a list of Company level calendars and project/shell calendars (not the custom calendar). You can select another calendar for the activity.

The selected Start Date or Finish Date for an activity can be a non-working calendar day, however the duration of the activity will only account for working calendar days.

Note

When you select the alternate calendar and click Save, the schedule sheet associated with the activity is marked for refresh with the Refresh icon  .

Project Progress Data Accumulation and Calculation

The Schedule Manager allows you to enter activity progress, which is accumulated and used to calculate the earned progress for each activity. Earned progress represents how much has been earned on an activity. Depending on type of activity, earned progress can be tied to activity progress directly. However, it is also possible nothing is earned even if the progress is 99%, if the activity has been defined to have earned progress counted upon 100% of activity completion.

Note

The Schedule Manager feature was deprecated starting with version 23.5. However, if you have access to it, you can continue to use it with existing configurations.

Earned progress is a quantitative measurement to indicate how much has been earned on an activity over the duration of the activity. Earned Progress can be represented by amount, quantity, and a percentage value. Earned Progress is based on the progress entered by the user on an activity.

Each activity can earn progress in different ways. One way to earn is when progress is entered. Another way to earn is by % of activity when the activity is started and earn remaining % when that activity is finished. The system captures earned progress for an activity as well as resources that assigned to an activity. Earned progress data from the Schedule Manager is related to CBS codes and is used by the Earned Value module (in the Cost Manager) to calculate different key components that are required to perform Earned Value analysis.

The Schedule Manager also allows you to enter activity progress in the activity properties.

The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in [Progress and Earned Progress Calculations](#). If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

Note

The calculations described in this section pertain to the progress and earned progress data accumulation and calculation. If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

Terminology

Progress: A percentage that indicates how much of an activity has been accomplished.

Earned Progress: This quantity represents the progress earned for a given activity over a time period. Depending on type of activity, earned progress can be tied directly to activity progress. Also, earned progress can be set up to be given at activity finish. For example, earned progress might not be awarded for incremental percentages of progress, and not be counted until 100% of an activity is complete.

Earned Progress and Earned Value

If you have access to the Earned Value Manager (EVM) module, it provides an analytical tool that allows Project Managers and stake holders of a project to determine whether a project is on schedule and on budget. Based on the outcome of the earned value analysis, the project manager can determine if corrective action is needed to ensure that the project can be completed within its constraints. Examples of corrective action can be the change of project scope, extension of the schedule, or the addition of resources.

There are multiple parameters that are used to calculate Earned Value to determine if a project is on schedule and on budget. Some of these parameters are Budget, Progress, or Actual Cost. All parameters must be considered together to determine the current state of a project. One of the key components of this technique is to capture the progress of a project. This progress is usually provided by a General Contractor or the person who is in charge of the project. These progress entries are analyzed to determine the state of the project. Progress information entered by user can be analyzed to determine the progress of the project with respect to budget and schedule.

Add a progress filter for earned value to a column

If the **Schedule Attribute** Form includes an **Activity Earned Value Filter** field (**uuu_activity_ev_filter**), you can set up progress filtering for earned value sheets in the Cost Manager.

To set up the schedule sheet for progress filtering:

1. Open a schedule sheet in a template or project/shell.
2. Add the **Activity Earned Value Filter** data element as a column to the schedule sheet.
3. Enter an alphanumeric value, such as "progressable" or "non-progressable," into the column cell. (Use whatever term you like.)
4. Save the schedule sheet.

Enter progress and earned progress information

In the system, there are several areas that enable you to enter data (based on settings), view progress and earned progress information, or control the accumulation of progress information:

1. **Budget and Progress Setup window:** First, set up how you want your progress data calculated. See [Setting Up the Budget and Progress Method](#).
2. **Enter data on the attribute forms.** The fields that allow you to enter data are determined by the settings on the Budget and Progress Setup window:
 - Resource Assignment Attribute Form (Resource tab of Activity Properties)
 - Schedule Attribute Form (General tab of Activity Properties)See [Entering Progress Data on the General and Resource Tabs of Activity Properties](#).
3. **Activity Progress window:** View activity and resource progress; depending on settings on the Budget and Progress Setup window, you can enter progress data in this window. This window is available only if you have imported the Resource Assignment Attribute Form. See [Entering Progress in the Activity Progress Window](#).
4. **Check activity and resource progress in the logs:** View and enter progress data as needed:
 - Activity Progress log
 - Resource Progress logSee [Using the Activity Progress and Resource Progress Logs](#).
5. **Options tab of the Schedule Sheet Properties:** The options on this tab allow you to control the automatic update of activity status based on Actual Start and Actual Finish dates, and to specify that activity progress requires an Actual Start Date.

Setting Up the Budget and Progress Method

The Schedule Manager allows you to set up a budgeted cost of work schedule profile for each activity on a schedule sheet to distribute budget associated with the activity. You can enter this profile information in the Budget and Progress setup window, either at the schedule sheet level (for all the activities on the sheet) or at the individual activity level.

These settings include selecting a profile, an entry method, and calculation methods for % Complete and % Earned. The settings you select in this window control how the progress and earned progress data that is entered on the Resource Assignment Attribute Form (Resource tab for Activity Properties) and the Activity form (General tab for Activity Properties) is calculated. Also, you can choose the workpackage-related CBS codes to link to, and lock the progress so it cannot be updated outside of a defined period.

You can configure the setup for progress (both resource and activity) and earned progress settings independently. At the same time, you can also have activity or resource progress calculate earned progress automatically or the earned progress calculate the progress.

Most of the Budget and Progress settings that you can use at the schedule sheet level are also available at the activity level, however there are some differences. This section will first document the settings for the schedule sheet level, and mention when there are variations at the activity level and refer to the appropriate section.

Note

The Budget and Progress Method setup options for an activity cannot be modified after a user begins to enter progress for that activity. This includes activity progress or progress of the resource assigned to that activity.

The calculations used to derive progress and earned progress are explained in [Progress and Earned Progress Calculations](#).

To set up the budget and progress method:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet** or **Activity**.
At the activity level, the Budget and Progress Method Setup window opens in the right side of the schedule sheet window, and replaces the Gantt chart. When you are done working with the activity-level Budget and Progress Method Setup window, you can select **Gantt Chart** from the **View** menu.
5. Select the Budget and Progress settings.
The Budget and Progress Method Setup window has several sections where you can choose settings.
 - **Activity Budget Distribution Profile:** See [Select the activity budget distribution profile](#).
 - **% Complete and Earned Progress:** See [Select the entry method for the % complete and earned progress](#).
 - **% Complete Calculation Method:** See [Select the calculation method for % complete](#).
 - **% Earned Calculation Method:** See [Select the calculation method for % earned](#).
 - **Additional Options (schedule sheet level only):** See [Select CBS codes filtered by workpackage \(schedule sheet level only\)](#) and [Lock the reporting and progress entry period \(schedule sheet level only\)](#).
6. Select **OK**.

Select the activity budget distribution profile

You can choose the option that determine how the budget of an activity is distributed.

To set up budget distribution for activities at the schedule sheet level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
The Default Budget and Progress Method Setup window opens.
5. Under the **Activity Budget Distribution Profile** section, choose an option.
This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Data Element Name	Description
Linear	This option distributes the activity budget linearly.
S-curve Sigma Mu %	This option distributes the activity budget based on Sigma and Mu values. S-curve calculations are based on Sigma and Mu values that are provided as setup parameters. The system will generate data using following probability density function: $f(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-(x-\mu)^2/(2\sigma^2)}$ Parameters in this equation are: <i>X</i> is determined based on the number of periods. <i>Mu</i> is the mean that is calculated based on user input. <i>Sigma</i> is the standard deviation that is used based on user input.
On Start and Finish % budgeted on Start and Finish	This option distributes the activity budget based on the Start and Finish Dates of the activity. % budgeted on Start: This option allows you to enter the percentage that should be budgeted on start of the activity. % budgeted on Finish: This is a read-only field, and is calculated based on the % budgeted on Start value. The value for this field is (100 - % budgeted on Start).
Import distribution data from external sources	This option allows Unifier to import progress data from Primavera. Data mapping is required in the schedule sheet to ensure the spread will be populated correctly in the EV sheet. All required fields must be mapped.

Data Element Name	Description
Distribution profile based on resource	This option distributes the cost of a role per activity by rolling up the rate of all the resources assigned to the activity. If hard booked resources are allocated, the total cost = (role rate) x (currency rate) x (quantity.) If the resources are not allocated, the total cost is manual entry (from a formula). In a schedule sheet's activity, you will need to match the activity's total cost to the role cost total. The total amount is rolled up to the cash flow module to create a cash flow profile based on the resource(s) cost on the activity.

The tables below show incremental and cumulative examples of how these three options work and the differences between them. This data is assumed for these examples:

- **Start Date:** 01/1/2009
- **Finish Date:** 12/1/2009
- **Total Cost:** \$12000.00
- **For S-Curve:** Sigma = 2 and Mu = 50%
- **For Start and Finish:** % budget distribution on start = 5%, % budget distribution on finish = 95%

Incremental

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
S-Curve	26.52	104.88	323.06	789.30	1462.17	2120.93	2401.43	2120.93	1447.85	774.98	323.06	104.88
On Start and Finish	600	0	0	0	0	0	0	0	0	0	0	11400

Cumulative

Option	01-09	02-09	03-09	04-09	05-09	06-09	07-09	08-09	09-09	10-09	11-09	12-09
Linear	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000
S-Curve	26.52	131.40	454.46	1243.76	2705.93	4826.86	7228.29	9349.22	10797.07	11572.10	11895.10	11999.99
On Start and Finish	600	600	600	600	600	600	600	600	600	600	600	12000

To set up budget distribution for activities at the activity level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select an activity in the sheet.
5. From the **File** menu, select **Budget and Progress Setup**, and then select **Activity**.
6. Under the **Activity Budget Distribution Profile** section, choose an option.
This option will apply specifically to the selected activity, and will override any default option set up at the schedule sheet level. The behavior of these Activity Budget Distribution Profile options at the activity level is the same as the default options at the schedule sheet level.

Select the entry method for the % complete and earned progress

You can select an entry method for the progress and earned progress data, and can enter progress (both resource and activity) and earned progress independently. Also, you can select an entry method that allows you to enter the progress of activity or resource then calculate earned progress, or enter earned progress and calculate progress for an activity or resource.

To select the entry method for the % complete and earned progress for activities at the schedule sheet level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
5. In the **Default % Complete and Earned Progress** section, choose a default entry method.
This entry method will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different entry method for an individual activity.

Use this Entry Method	To do this:
Independently Control % complete and earned quantity	Enter the progress of activity or resource independent of earned progress.
Activity and resource % complete updates % earned	Enter the progress of activity or resource, and earned progress will be automatically calculated.
Activity and resource % earned updated % complete	Enter the earned progress of activity or resource, and progress will be automatically calculated.
Do not allow update of % complete and % earned	Not enter either progress or earned progress. You cannot enter any type of activity progress information with this option selected.

To select the entry method for the % complete and earned progress for activities at the activity level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select an activity in the sheet.
5. From the **File** menu, select **Budget and Progress Setup**, and then select **Activity**.

6. Under the **% Complete and Earned Progress** section, choose an entry method. This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete and Earned Progress Entry Method options at the activity level is the same as the default options at the schedule sheet level.

Select the calculation method for % complete

You can select an option that allows you to enter progress information for a key quantity (referred to as the Leader) of an activity which will determine the overall progress of other resources and the activity itself. For example:

- **Example 1:** Assume that there are two resources on an activity, called Resource 1 and Resource 2. If the key quantity is Resource 1 and you enter progress (say 30%) on Resource 1, then Resource 2 should also progress with same 30%. Also, overall activity progress should progress by 30%.
- **Example 2:** Assume that the key quantity (Leader) in this example is Activity % Complete. If you enter progress of 50% on the activity, Resource 1 and Resource 2 are updated with the same progress of 50%.

The key quantity is referred to as the Leader in Unifier.

To select the % complete calculation method for activities at the schedule sheet level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
5. Under the **Default % Complete Calculation Method** section, choose an option. This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Note

Company holidays based on company calendar should be considered while distributing budget. Budget should not be distributed on days that are marked as holidays on company calendar.

Use this Calculation Method	To do this:
Manual activity % complete and resource % complete	Enter the progress of activity and resource independent of each other. Entering Activity % Complete will not update resource progress and entering resource % complete will not update Activity % Complete.
Manual activity % complete - updates resource % complete	Enter the progress of an activity, and resource % complete will be updated automatically. If this option is selected, Activity % Complete will become the key quantity or Leader, which will control the progress of the entire activity, including resources.

Use this Calculation Method	To do this:
Resource updates Activity - weighted average of resource costs	Enter progress for each resource independently. Activity % Complete is read-only and will be automatically calculated based on weighted resource cost. The following formula is used to calculate this value: $\{ \text{Sum of [Resource Progress Quantity / Resource Quantity] * (Resource Amount)} / \text{Sum of (Resource Amount)} \} * 100$ All resources are considered in this calculation, including hard booked resources.
Resource updates Activity - weighted avg. of resource hours	Enter progress for each resource independently. Activity % Complete will be read-only and will be automatically calculated based on weighted resource man hours. The following formula is used to calculate this value: $\{ \text{Sum of [Resource Progress Quantity / Resource Quantity] * (Resource Amount)} / \text{Sum of (Resource Quantity)} \} * 100$ The only resources considered in this calculation are hard booked resources.

① Note

Progress entry for Resource and Activity before importing Resource Assignment Attribute Form is based on Activity % Complete and Resource % Complete. After the Resource Assignment Attribute Form is imported, progress on activity will be Activity % Complete, but for Resource it is Progress Quantity the data element. Resource % Complete is then read-only and always calculated.

To select the % complete calculation method for activities at the activity level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Activity**.
5. Under the **% Complete Calculation Method** section, choose an option.
This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Complete Calculation Method options at the activity level is the same as the default options at the schedule sheet level. The exception is **Lead resource updates Activity and other resources**, described in the next step.

Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a Leader. If you select this option and a resource from the drop down menu, you can enter progress on only that resource. Activity % Complete and Resource % Complete on all other resources are read-only and will be automatically calculated based on the progress entered on key quantity or leader resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Activity % Complete at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Activity % Complete at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select the calculation method for % earned

Earned progress is a quantitative measurement to indicate how much has been earned on an activity over its duration. Earned progress can be represented by amount, quantity, and a percentage value.

Earned progress is based on the progress entered on an activity. Activities can earn progress in when progress is entered, or by % of activity budget, when the activity is started and earn remaining the remaining percentage when that activity completes.

The system allows you to accumulate and calculate earned progress for an activity as well as resources assigned to an activity:

- Earned Progress is calculated at activity level and each resource assigned to that activity.
- Earned Progress calculated under a schedule sheet for activity and assigned resources is used later in the Earned Value module (in the Cost Manager) to calculate Budgeted Cost of Work Performed (BCWP).
- Earned Progress calculated at the activity level is used when BCWP needs to be represented by the cost.
- Earned Progress calculated at resource assignment level is used when BCWP is represented by a unit of measure (for example, Hours).

To select the % earned calculation method for activities at the schedule sheet level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
5. Under the **Default % Earned Calculation Method** section, choose an option.

This option will apply to all activities in the schedule sheet, unless it is overridden by the selection of a different option for an individual activity.

Use this Calculation Method	To do this:
Manual activity % earned and resource % earned	Enter earned progress of activity and resource independent of each other. Entering Activity earned progress will not update resource earned progress and entering resource earned progress will not update activity earned progress.
Manual activity % earned - updates resource % earned	You can select this option only if Manual activity % earned and resource % earned is selected. Allows you to enter earned progress of an activity and resource earned progress will be updated automatically.
Resource updates Activity - weighted average of resource costs	Enter earned progress for each resource independently. Activity earned progress will be read-only and will be automatically calculated based on weighted resource cost. Following formula will be used. $(\text{Sum of Resource Cost} * \text{Resource Earned Progress} / \text{Total Activity Work Hours}) * 100$ All resources will be considered in this calculation including hard booked resources.
Update Activity and all resources on activity start and finish % earned on Actual Start and Actual Finish	Allow the system to calculate earned progress based on actual start and finish of the activity % earned on Actual Start: This option will allow user to enter % that should be earned on start of the activity. User can enter a value. % earned on Actual Finish: This is a read-only field. Should always be calculated based on % earned on Actual Start. Value for this field should be $(100 - \% \text{ earned on Actual Start})$. If you select this option, earned progress is calculated based on Update Activity and all resources on activity start and finish of the activity. The system will automatically calculate earned progress for activity and assigned resources when actual start and finish dates are entered.

To select the % earned calculation method for activities at the activity level:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Activity**.
5. Under the **% Earned Calculation Method** section, choose an option.
This option will apply specifically to the selected activity, and will override any default entry method set up at the schedule sheet level. The behavior of these % Earned Calculation Method options at the activity level is the same as the default options at the schedule sheet level. The exception is **Lead resource updates Activity and other resources**, described in the next step.

Under the activity level, you can select **Lead resource updates Activity and other resources**, and choose resources (including hard booked) that are assigned to the activity on the Resource tab. This option allows you to select a resource as a key quantity or a

Leader. If you select this option and a resource from the drop down menu, you can enter progress on only that resource.

For example:

Assume that there is an activity with Resource 1 and Resource 2, with the Earned Progress at 0%:

Resource	Work Hours	% Complete
Resource 1	200	0
Resource 2	500	0 (read-only)

For a further example, assume that Resource 1 is the key quantity or Leader, with the Earned Progress at 30%:

Resource	Work Hours	% Complete
Resource 1	200	30
Resource 2	500	30 (read-only)

You can change the Lead resource updates Activity and other resources drop down menu selection until there is progress or earned progress entries for the activity or resource. After progress or earned progress data is entered, the Budget and Progress Method Setup for the activity is disabled and you cannot delete the resource selected as Leader. If you find that you must change the settings for the activity, you must delete the activity and start over with new data and settings.

Select CBS codes filtered by workpackage (schedule sheet level only)

An activity in a schedule sheet can be associated with one or more CBS Codes. This assignment is used to create a mapping between costs associated with an activity to a Cost Code (CBS Code). The system allows you to choose a workpackage to use to filter the CBS codes you can select in the Activity Properties, CBS Codes tab. You can choose one workpackage to use as a filter.

Note

The Workpackage must be active and contain CBS codes, and also transactions must have occurred using the pertinent CBS codes, or the CBS codes tab will not contain codes for you to select.

To filter CBS codes by workpackage:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
5. Under the **Additional Options** section, in the **Workpackage** field, click **Select**.

Lock the reporting and progress entry period (schedule sheet level only)

You can prevent users from entering or modifying progress data entries made prior to the current week or the current month. These selections allow you to control the activity and resource data entered on the Activity Progress window. See [Entering Progress in the Activity Progress Window](#) for details.

To specify a restriction on data entry or reporting for progress data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Budget and Progress Setup**, and then select **Schedule Sheet**.
5. Under the **Additional Options** section, in the **Reporting Period** field, select **Week** or **Month**.
If there is an activity calendar specified, that calendar affects the reporting period for these options.
6. Select the **Do not allow progress entry older than current period** checkbox.
This checkbox works in conjunction with Reporting Period that you select. If you select Week as the reporting period, users cannot enter or modify progress entered prior to current week; if you select Month as the reporting period, users cannot enter or modify progress entered prior to current month.

In addition, you can select **Allow editing of last period progress** and specify a number of working days into the current period. Selecting this option allows users to modify progress of the last period (based on the reporting period) until a specified number of days into the current period.
7. Select **OK**.

Entering Progress Data on the General and Resource Tabs of Activity Properties

The Resource Assignment Attribute Form (when imported, replaces the Resources tab of the Activity Properties and provides data elements to other areas) contains fields related to resources assigned to an activity to that allow you to enter effort and expense information related to that effort. The Resource Assignment Attribute Form allows you to assign a resource to a Resource Type, rather than to a hard booked resource. Also, it allows the capture of progress with respect to effort, and the base lining of resource assignment.

The Schedule Attribute Form is used as the General tab of the Activity Properties can also include fields that allow you to enter progress and earned progress data.

The ability to enter progress and earned progress on the Schedule Attribute and the Resource Assignment Attribute Forms is based on the options selected on the Budget and Progress Setup for a given activity. See [Setting Up the Budget and Progress Method](#). Fields on the forms are editable or read-only and calculated based on the option settings.

This progress or earned progress is time stamped when entered:

- For an activity:
 - Date on which the progress or earned progress is entered or calculated.
 - Activity % Complete value

- Earned Progress value
- For a resource:
 - Date on which the progress quantity and or earned progress is entered or calculated
 - Progress Quantity value
 - Earned Progress value

You can access time stamped information through the Activity Progress Log or the Resource Progress Log. See [Using the Activity Progress and Resource Progress Logs](#) for details on the logs.

The calculations used to derive progress and earned progress are explained in [Progress and Earned Progress Calculations](#).

To enter data into the attribute forms:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select the link for the applicable activity in the sheet.
On the **General** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Schedule Attribute Form and that form has been imported:

- Earned Progress
- Earned Amount
- Forecast 1 Start
- Forecast 1 Finish
- Activity Percent 1

On the **Resource** tab, you can enter progress or earned progress data in these fields, depending on settings on the Budget and Progress Setup window, and if the data elements for these fields have been added to the Resource Assignment Attribute Form and that form has been imported. The fields you see may vary:

- Resource Name
- Role Name (Picker)
- Resource Type
- Quantity (Qty)
- UOM
- Amount
- % Units
- Earned Progress
- Earned Amount
- ETC
- ETC Amount
- Resource % 1

Note

You can double-click the resource name to view the Resource Assignment Attribute Form in view-only mode.

5. Select **Add**.
6. Enter resource data as needed.
7. Select **OK**.

Entering Progress in the Activity Progress Window

The Activity Progress window allows users to quickly modify the daily activity and resource progress data for a selected activity. Users can move down the rows of activities with the Activity Progress window open and quickly modify the progress for each activity without having to open the activity.

Note

The Activity Progress window is available only if the Resource Assignment Attribute Form is designed and imported into Unifier.

You can access the Activity Progress Log and the Resource Progress Log from the Activity Progress window. The logs display the progress data that is entered over time, and allow the user to view and modify the progress data for activities and resources. See [Using the Activity Progress and Resource Progress Logs](#) for details.

Note

If you enter partial activity progress data, for example enter Activity Progress for a day, but do not enter the Resource Progress (or enter Resource Progress and do not enter Activity Progress at that time), and then save the data, you cannot enter the Resource Progress later that day. However, you can enter the progress the next day.

To view or enter activity progress on the Activity Progress window:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select an activity in the sheet.
5. Select **Progress**.
The Activity Progress window opens on the right side. The Activity Progress and Resource Progress fields are editable or read-only depending on settings on the Budget and Progress Method setup window.
6. Select **Save**.

In this field:	Do this:
Activity progress as of	Select a date for which you want to enter progress data. Today's date shows by default. This date is used as the time stamp for progress data entered on this window. If you choose a date that conflicts with the date restriction you have set up on the Budget and Progress Method Setup under Additional Options (see Lock the reporting and progress entry period (schedule sheet level only) for details) you will receive a warning message. If you have selected the Reporting Period: • Week: You cannot select a date prior to current week. Weeks are counted as Sunday to Saturday. For example, if today is Monday, June 22, you cannot select a date prior to Sunday, June 21. • Month: You cannot select a date prior to current month. For example, if the current month is June 2009, you cannot select a month prior to June 2009. You can select a date in the future if it is in the current period. You cannot select a date which is designated as a company holiday on company calendar.
Activity Progress - latest activity progress information	
Activity Progress Log button	Select to access the Activity Progress Log. See Using the Activity Progress and Resource Progress Logs for details. This log displays all activity progress entries made by user.
Activity Percent Complete	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Earned Progress	Enter or view activity progress data. This field is read-only or editable based on settings in Budget and Progress Method setup window for the activity. Unless you enter a value, the latest previously-entered value is retained in this field.
Latest Progress as of	View the date on which the system last calculated activity progress. This field corresponds with Primavera Current Data Date. The system retains Current Data Date on schedule sheets imported from Primavera.
Latest % Complete	View the latest activity % complete.
Latest Earned Progress	View the latest earned progress of the activity.
Resource Progress - latest resource progress information	
Activity Progress Log button	Select to access the Resource Progress Log. See Using the Activity Progress and Resource Progress Logs for details. This log displays all resource progress entries made by user.
Leader Column	View an icon to indicate the leader selected on the Budget and Progress Method Setup window.

In this field:	Do this:
Resource Name	View the name of the resource. This column will show Resource Name for each resource from resource assignment form.
Quantity	View the quantity for each resource from the Resource Assignment Attribute Form.
Progress Quantity	Enter progress quantity. Unless you enter a value, the latest previously-entered value is retained in this field.
Earned Progress	View the earned quantity of each resource, which is associated with the Earned Progress on Resource Assignment Attribute Form. Unless you enter a value, the latest previously-entered value is retained in this field.
UOM	View the unit of measure for each resource from the Resource Assignment Attribute Form.
Resource Latest Progress - latest progress information for each resource. Select a resource listed under Resource Progress to see the latest progress for each resource.	
Resource Name	View the name of the selected resource.
Progress as of	View the latest progress entry date of the resource.
Progress Quantity	View the latest progress quantity entered.
Earned Progress	View the latest earned quantity of the resource.
UOM	View the unit of measure for the resource.

To view or enter activity progress on the Activity Progress window for a summary activity:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select the link for the applicable activity in the sheet.
5. Select a summary activity in the sheet.
6. Select **Progress**.
The Activity Progress window opens on the right side. For an explanation of the fields on this window, see the table below.
7. Select **Save**.

Activity Progress window fields:

In this field:	Do this:
Activity % Complete	View the activity percent complete for the activities.
Latest Progress as of	View the latest progress entry date across all leaf activities under the selected summary activity.
Earned Progress	View the latest earned quantity of the activities.

Export and Import Activity Progress data

You can export and import to import Activity Progress using CSV files. This CSV export and import functionality is available only if the Resource Assignment Attribute Form has been imported.

To export Activity Progress data:

You can export Activity Progress data to a CSV file with latest activity and resource information. The CSV will only contain leaf level activities. This is an example of an exported Activity Progress CSV file:

	A	B	C	D	E	F	G	H	I	J
1	Note									
2	Columns with "!" cannot be modified									
3										
4	Progress as of!									
5	8/27/2009									
6	AI	Activity ID!	Activity Name!	Leader!	Activity % Complete	Earned Progress	Latest Progress as of!	Latest % Complete!	Latest Earned Progress!	
7	RI	Resource Name!	Quantity!	Leader!	Progress Quantity	Earned Progress	Latest Progress as of!	Latest Progress Quantity!	Latest Earned Quantity!	UOM!
8	A		1 Activity 1				08/26/2009	30.00	30.00	
9	R	Manhours	400				08/26/2009	30.00	30.00	Hrs
10	R	Equipment	1				08/26/2009	30.00	30.00	Each
11	R	Material	1000	Yes			08/26/2009	30.00	30.00	L ft
12	A		2 Activity 2				08/20/2009	20.00	10.00	
13	R	Manhours	500				08/15/2009	15.00	10.00	Hrs
14	A		3 Activity 3	Yes			08/20/2009	20.00	10.00	
15	R	Manhours	500				08/20/2009	20.00	10.00	Hrs

Example of Activity Progress CSV file

In the example, notice that the first column is named *Progress as of!*. This date is used as a timestamp on the progress information. There are two headers in this example file:

Notice that there is a *Leader!* Column. This column identifies which row is a leader for an activity. This is based on Budget and Progress setup profile option of an activity. If the activity is updating all resources, the activity shows Yes in the Leader column. If a resource is updated all other resources, the resource shows Yes in the Leader column. For all other options, the Leader column will be empty.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the **File** menu, select **Export**, and then select **Activity Progress Template**.
5. Modify the CSV file as needed to add activity progress data.
6. Save the CSV file and import it.

To import Activity Progress data:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. From the File menu, select **Import**, and then select **Activity Progress**.
5. Browse to select the CSV file to import.
6. Select **OK**.

Using the Activity Progress and Resource Progress Logs

After entering activity or resource progress data, the user can view or modify the data by going to an Activity Progress Log or Resource Progress Log. These logs are accessible only from the Activity Progress window. From these logs, the user can view progress effective date, progress quantity and earned quantity. The user can also modify the progress and earned quantity data, for the most recent entry and for entries in the past, depending on the settings for the editing of period progress on the Budget Progress and Method Setup window. See [Lock the reporting and progress entry period \(schedule sheet level only\)](#) for details.

For example, you might want to use this log to modify data if you need to change past progress data based on actual start of data calculation, which saves you from having to delete the activity and lose all the data associated with that activity.

Note

Modifying log information will not change the current information on Schedule Attribute Form and Resource Assignment Attribute Form unless data related to today is modified.

To view or modify progress data from the Activity Progress or Resource Progress logs:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
3. In the Schedule Sheets log, select a schedule sheet, and select **Open**.
4. Select a summary activity in the sheet.
5. Select **Progress**.
The Activity Progress window opens on the right side.
6. Select **Activity Progress Log** or **Resource Progress Log**.
7. Modify progress data as needed. Select the row you want to modify and double-click the cell that you need to modify. The Progress Quantity or Earned Progress columns can be editable depending on settings on Budget and Progress Method Setup window for the activity.
8. Select **Save**.

Progress and Earned Progress Calculations

Note

The calculations described in this section pertain to the progress and earned progress data accumulation and calculation discussed in [Project Progress Data Accumulation and Calculation](#). If you do not need to work with progress or earned progress data to ultimately calculate Earned Value, you do not need to read this section.

This section explains calculations involved in calculating progress and earned progress at activity and resource level based on different options selected on Budget and Progress Method setup window. The data elements on the Schedule Attribute and Resource Assignment Attribute Forms are considered and affected by the progress and earned progress calculations are:

- Activity
 - Total Cost
 - Activity % Complete
 - Earned Progress
 - Earned Amount (Value of this data element is always based on uDesigner design)

- Resource
 - Role
 - Quantity
 - Rate
 - Amount
 - Resource % Complete (Value of this data element is calculated as (Progress Quantity / Quantity) %)
 - Progress Quantity
 - Earned Quantity
 - Earned Amount (Value of this data element is always based on uDesigner design)

The calculations are described in terms of the calculation options in relation to the % Complete and Earned Progress entry method selected:

- [Independently Control % complete and Earned quantity](#)
- [Activity and resource % complete updates % earned](#)
- [Activity and resource % earned updates % complete](#)
- [Do not allow update of % complete and % earned](#)

See [Select the entry method for the % complete and earned progress](#) for details on these methods.

Independently Control % complete and Earned quantity

This section contains scenarios for calculations based on the entry method **Independently Control % complete and earned quantity** and the % **Complete Calculation Method** option selected.

Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete	Manual entry	

Activity or Resource	Data Element	Data Entry Method	
Resource	Earned Progress		Manual entry
	Progress Quantity		Manual entry
	Earned Progress		Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted average of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Resource updates Activity - weighted average of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry

Activity or Resource	Data Element	Data Entry Method	
	Earned Progress		Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource			
	Progress Quantity		Manual entry
	Earned Progress		Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry

Activity or Resource	Data Element	Data Entry Method
	Earned Progress	Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity

- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

This data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only). (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted average of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Resource updates Activity - weighted average of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress	Manual Entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete		Manual entry
	Earned Progress		Calculated (Weighted Cost) $\{ \text{Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)]} / \text{Sum of (Resource Amount) } \} * 100$
Resource			
	Progress Quantity		Calculated (read-only). (Activity-level Activity % Complete * Quantity)
	Earned Progress		Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, when Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)]} / \text{Sum of (Resource Quantity)} \} * 100$ Only hard booked resources will be considered.
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Manual Activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			

Activity or Resource	Data Element	Data Entry Method	
	Activity % Complete		Calculated (Weighted Hours) and (read-only). $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } \} * 100$ Only hard booked resources will be considered.
	Earned Progress		Manual entry
Resource			
	Progress Quantity		Manual entry
	Earned Progress		Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } \} * 100$ Only hard booked resources will be considered.

Activity or Resource	Data Element	Data Entry Method
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and (read-only). {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Quantity)] / Sum of (Resource Quantity) } * 100 Only hard booked resources will be considered.
	Earned Progress	Calculated (Weighted Cost) {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100
Resource		
	Progress Quantity	Manual entry

Activity or Resource	Data Element	Data Entry Method
	Earned Progress	Calculated based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**.

% Earned Calculation Method option is Manual activity % earned and resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered.	
	Earned Progress	Manual entry	
Resource			
	Progress Quantity		Manual entry

Activity or Resource	Data Element	Data Entry Method	
	Earned Progress		Manual entry

% Earned Calculation Method option is Manual activity % earned - updates resource % earned

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete		Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)]} / \text{Sum of (Resource Amount)} \} * 100$ All booked resources will be considered.
	Earned Progress		Manual entry
Resource			
	Progress Quantity		Manual entry
	Earned Progress		Calculated (Activity-level Earned Progress * Quantity)

% Earned Calculation Method option is Resource updates Activity - weighted avg. of resource costs

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$ All resources will be considered.
	Earned Progress	Calculated (Weighted Cost). $\{ \text{Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Manual entry

% Earned Calculation Method option is Lead resource updates Activity and other resources

This combination of settings is not available.

% Earned Calculation Method option is Update Activity and all resources on activity start and finish

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Update Activity and all resource on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			

Activity or Resource	Data Element	Data Entry Method	
	Activity % Complete		Calculated (Weighted Hours) and read-only. $\{ \text{Sum of } [(\text{Resource Progress Quantity} / \text{Resource Quantity}) * (\text{Resource Amount})] / \text{Sum of } (\text{Resource Amount}) \} * 100$ All resources will be considered.
	Earned Progress		Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% When Actual Finish is entered, Earned Progress = 100%
Resource			
	Progress Quantity		Manual entry
	Earned Progress		Calculated (read-only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Independently Control % complete and earned quantity
- % Complete Calculation Method option = Lead resources updates Activity and other resources.
- % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$ All resources will be considered.
	Earned Progress	Calculated (Weighted Cost) and read-only. $\{ \text{Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$
Resource		
	Progress Quantity	Manual Entry (Only resource that is selected under drop-down). For all other resources, Progress Quantity will be calculated based on $(\text{Leader Progress Quantity} / \text{Leader Quantity}) * \text{Resource Quantity}$
	Earned Progress	Manual Entry (only resource that is selected under drop-down). For all other resources, Progress Quantity will be calculated based on $(\text{Leader Earned Quantity} / \text{Leader Quantity}) * \text{Resource Quantity}$

Activity and resource % complete updates % earned

This section contains scenarios for calculations based on the entry method **Activity and Resource % Complete Updates % Earned** and the **% Complete Calculation Method** option selected.

Method is Manual activity % complete and resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete and resource % complete**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Manual activity % complete and resource % complete
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Manual activity % complete - updates resource % complete

This section contains scenarios based on the option selected for % Complete Calculation Method being **Manual activity % complete - updates resource % complete**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Manual activity % complete - updates resource % complete
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Manual entry

Activity or Resource	Data Element	Data Entry Method
Resource	Earned Progress	Calculated (read-only) Same as Activity % Complete
	Progress Quantity	Calculated (read-only) (Activity-level Activity % Complete * Quantity)
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Resource updates Activity - weighted avg. of resource hours

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource hours**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource hours
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$ Only hard booked resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Complete Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Earned Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned
- % Complete Calculation Method option = Resource updates Activity - weighted avg. of resource costs
- % Earned Calculation Method option = Not available

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$ Only hard booked resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Complete Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Earned Calculation Method option is Lead resource updates Activity and other resources

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % complete updates % earned

- % Complete Calculation Method option = Lead resource updates Activity and other resources
 - % Earned Calculation Method option = Lead resource updates Activity and other resources
- then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (Weighted Hours) and read-only. $\{ \text{Sum of [(Resource Progress Quantity / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } \} * 100$ All resources will be considered
	Earned Progress	Calculated (read-only) Same as Activity % Complete
Resource		
	Progress Quantity	Manual entry. (Only resource that is selected under drop-down). For all other resources, Progress Quantity will be calculated based on $(\text{Leader Progress Quantity} / \text{Leader Quantity}) * \text{Resource Quantity}$
	Earned Progress	Calculated (read-only) Same as Progress Quantity

Activity and resource % earned updates % complete

This section contains scenarios for calculations based on the entry method **Activity % Earned and Resource % Earned Updates % Complete** and the **% Earned Calculation Method** option selected.

Method is Manual activity % earned and resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned and resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Manual activity % earned and resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry

Method is Manual activity % earned - updates resource % earned

This section contains scenarios based on the option selected for % Earned Calculation Method being **Manual activity % earned - updates resource % earned**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Manual activity % earned - updates resource % earned

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Manual entry
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read-only) (Activity-level Earned Progress * Quantity)

Method is Resource updates Activity - weighted avg. of resource costs

This section contains scenarios based on the option selected for % Earned Calculation Method being **Resource updates Activity - weighted avg. of resource costs**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Resource updates Activity - weighted avg. of resource costs

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete		Calculated (read-only) Same as Earned Progress
	Earned Progress		Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100 All resources will be considered
Resource			
	Progress Quantity		Calculated (read-only) Same as Earned Progress
	Earned Progress		Manual entry

Method is Lead resource updates Activity and other resources

This section contains scenarios based on the option selected for % Earned Calculation Method being **Lead resource updates Activity and other resources**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Lead resource updates Activity and other resources

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method	
Activity			
	Activity % Complete	Calculated (read-only) Same as Earned Progress	
	Earned Progress	Calculated (Weighted Hours) and read-only. {Sum of [(Resource Earned Progress / Resource Quantity) * (Resource Amount)] / Sum of (Resource Amount) } * 100	
Resource			
	Progress Quantity	Calculated (read-only) Same as Earned Progress	
	Earned Progress	Manual Entry (Only resource that is selected under drop-down). For all other resources, Earned Progress will be calculated based on (Leader Earned Progress / Leader Quantity) * Resource Quantity	

Method is Update Activity and all resources on start and finish

This section contains scenarios based on the option selected for % Earned Calculation Method being **Update Activity and all resources on activity start and finish**. There is only one data entry scenario for this setting.

% Complete Calculation Method options are not available

If the entry method and option settings on the Budget and Progress Method Setup window are:

- % Complete and Earned Progress entry method = Activity and resource % earned updates % complete
- % Complete Calculation Method option = Not available
- % Earned Calculation Method option = Update Activity and all resources on activity start and finish

then this data entry method scenario results:

Activity or Resource	Data Element	Data Entry Method
Activity		
	Activity % Complete	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read-Only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% When Actual Finish is entered, Earned Progress = 100%
Resource		
	Progress Quantity	Calculated (read-only) Same as Earned Progress
	Earned Progress	Calculated (read Only) based Update Activity and all resources on activity start and finish. For example: If % earned on Actual Start = 5% and % earned on Actual Finish = 95 % then, When Actual Start is entered, Earned Progress = 5% * Quantity When Actual Finish is entered, Earned Progress = 100% * Quantity.

Creating Schedule Manager Custom Calendars

The system allows you to create Custom Calendars to be used by the Schedule Manager. The Custom Calendar that you specify can override the company-level Standard Calendar. If there is no Custom Calendar, the Standard Calendar marked as the default calendar is the calendar that is used by the Schedule Manager.

The system allows you to create multiple Custom Calendars, enabling you to create a library of calendars that can be selected for use on your schedule sheets. The multiple calendars enable you to have calendars to support varying work schedules (depending on locality) and to account for holidays and other non-working days. For example, some countries in the Middle East have weekends that are other than Saturday and Sunday.

You must have permissions granted to create, modify, delete, or view Custom Calendars.

About Calendars and Activities

When you select or change an activity calendar, the calendar affects the following dates and date pickers:

- **Start Date** date picker
- **Finish Date** date picker

- Duration calculation
- **Actual Start Date** date picker
- **Actual Finish Date** date picker
- Actual Duration
- Forecast Start calculation
- Forecast Finish calculation
- Forecast Duration calculation
- Critical Path
- Estimate dates
- Estimate duration
- Float calculation
- Progress window Progress As Of Date date picker
- Budget and Progress options **Do not allow progress entry older than the current period** and **Allow editing of last progress**
- Any date or date only picker data element

This is how the dates are changed when the activity calendar changes. Changes occur when the schedule sheet is refreshed.

- Activity (not started): If the Start Date is affected by a new activity calendar, the Start Date and Finish Date will change to keep the Duration as specified. The system will use the next day on the calendar.
- Activity (not started): If the Finish Date is affected by a new activity calendar, the system will select either a previous or next working day on the calendar.
- Activity (in progress): If the Finish Date is affected by a new activity calendar, the system will select either a previous or next working day on the calendar. The Start Date is not affected in this case.
- Activity (completed): No impact on Start Date or Finish Date for the activity.

Create a Custom Calendar in the Schedule Manager

To create a custom calendar in the Schedule Manager, you must have Create permission. You can create a new calendar manually, or by copying and modifying an existing calendar.

To create Custom Calendars:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Custom Calendars**. The Custom Calendars log opens.
3. Select **New**. The Calendar Properties window opens.
4. Enter the calendar name and an optional description.
5. Specify the working and non-working days for the calendar you are creating. Browse to the month and year using the pull-down menus at the top of the calendar. Saturdays and Sundays are set as non-working days by default. Do one of the following:

- To set a particular date as a non-working day (for example, a holiday), select the date on the calendar, and select **Non Working**. The date will appear greyed out, and will not be used in date calculations.
- To set a non-working day as a working day, select a greyed cell, and select **Working**.
- To set a particular day of the week (for example, every Saturday) as a non-working day, select the day at the top of the calendar (for example "Sat"), and then select **Non Working**. All Saturdays in the calendar will be changed to non-working days (grey).
- To set a particular day of the week as a working day, select the day at the top of the calendar, and then select **Working**.
- If you only want to set the day of the week in a particular month as working or non-working days, select each day individually, and select **Working** or **Non Working**.

Note

If you have marked the day of the week as a non-working day throughout the calendar by selecting the day at the top of the calendar (for example "Sat"), you will not be able to mark individual days (that is, individual Saturdays in this example) as working days. To be able to include both working and non-working instances of a day of the week on the calendar, you must select them individually.

6. Specify the Default Work Time with the **Start Time** and **Hours/Day** fields.
7. Select **OK**.

To copy an existing calendar:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Schedule Manager**, and then select **Custom Calendars**. The Custom Calendars log opens.
3. Select a calendar in the log.
4. Select **Copy**.
The Calendar Properties window opens with the calendar description and calendars days specified. You can copy from Standard (Company level) or Custom (project/shell level) calendars.
5. Enter the calendar name and change the optional description as needed.
6. Modify the working and non-working days that are specific to the new calendar you are creating. Browse to the calendar months you want to modify. Select the calendar day, and select the working days and default work time as needed.
7. Select **OK**.

Do not allow update of % complete and % earned

When the **Do not allow update of % complete and % earned** entry method is selected, these fields are disabled.

- Activity
 - Activity % Complete
 - Earned Progress

- Resource
 - Resource % Complete
 - Progress Quantity
 - Earned Quantity

P6 Summary Sheets

Unifier allows you to store summarized data from P6 in the P6 Summary Sheets node.

If you have access to the Earned Value Manager feature, refer to the *Unifier Earned Value Management User Guide* for more information about Activity Sheets and P6 Summary Sheets.

To view the P6 Summary Sheets node in a project/shell, User mode, the Shell Attribute Form must have the Data Element (DE) *uuu_int_schedule_type*, and you (User) must have the appropriate permissions for accessing the node.

The placement of P6 Summary Sheet node under the Schedule Manager is by default. A user can move P6 Summary Sheet node under other Summary nodes (Example: Cost Manager) if needed.

The P6 Summary Sheets node contains one sheet, or more, that contains “summarized” P6 data:

- **Master Summary Sheet**
Contains summarized data from the P6 Project and the sheet is linked to the current project/shell.

The Master Summary Sheet is not displayed as "Master" in the Master Summary Sheet properties.
- **Baseline Summary Sheet**
A P6 Project can contain any number of baselines, or no baselines at all. A baseline is a copy of the P6 Project that contains frozen data per Data Date. You can select to bring summarized baseline data from a P6 Project to Unifier, via Gateway. The Baseline Summary Sheets that you bring to Unifier, from a P6 Project, reside in the Master sheet below the P6 Summary Sheets node.

Note

- The Baseline Summary Sheet appears as an additional Schedule Sheets node under the Schedule Manager.
- When a P6 User enters the actual and progress data in P6 Schedule, the date is displayed as "Progress as of" date in P6 Schedule.
- You cannot create a new P6 Summary Sheet manually. Unifier allows a total of 12 summary sheets to be integrated: 1 current Schedule Summary sheet and 11 Baseline Summary Sheets, or 12 Baseline Summary Sheets.

Schedule Sheet Integration

Unifier continues to support out-of-the-box (OOTB) mapping for integration between P6 and Unifier, using existing Schedule Sheets.

This OOTB mapping is available as part of Project Controls installation as a shell template (T-002).

To view the data mapping fields in Unifier:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Templates**, select **Shells**, and then select **Projects**.
3. Open the **T-002 (Project #) Owner Project Template** (Project Name).
4. In the left Navigator, select **Schedule Manager**, and then select **Schedule Sheets**.
5. In the **Schedule Sheets** log, open **Project Schedule Sheet**.
6. From the **File** menu, select **Data Mapping**.
7. In the Data Mappings dialog box, select **P6**, select **Modify**, and then select the **Activity** tab.

The column name and XML elements are listed as shown below. You can use the XML elements for integration with P6.

Column	XML Element
Activity Name	Name
Activity Percent	PercentComplete
Actual Finish Date	ActualFinishDate
Actual Start Date	ActualStartDate
Duration	PlannedDuration
Early Start date	EarlyStartDate
Early finish date	EarlyFinishDate
Finish date	PlannedFinishDate
Late Start date	LateStartDate
Late finish date	LateFinishDate
P6 Activity Number	Id
P6 CBS	CBSCode
Start date	PlannedStartDate

Auto-Scheduling of Activities

You can disable automatic re-scheduling within Unifier Schedule Sheet to:

- Schedule Activities manually.
- Integrate Activities with their dependencies with the same schedule as exists in P6 and MPP.

Disabling Automatic Scheduling of Activities

When Activities with dependencies are integrated by Direct Integration with P6, or imported through MPP XMLS, the activities are re-scheduled automatically within the Schedule Sheet to retain the dependencies, leading to Data change. You can disable this automatic reschedule in Schedule sheet to integrate or import the data as is and to schedule the Activities manually, if desired.

To enable or disable auto-scheduling:

1. Go to the **Schedule Sheet Properties** window, **General** tab.

2. Select your option in **Auto-Schedule** field. The default selection is **Enable**.

In the **Schedule Sheets** log, the column **Auto-Schedule** displays the condition of the sheet.

When the auto-scheduling is *disabled*:

- You will be able to edit the **Activity Properties** of a particular **Activity**, for example **Start Date**, **Finish Date**, **Duration**, **Predecessor**, **Dependencies**, and so on. The properties of the dependent activities are not impacted because if automatic scheduling is disabled.
- You can manually reschedule the schedule sheet to implement your changes by refreshing it through a manual **Schedule** refresh, **Cost and Schedule** refresh, or enabling scheduled refresh (**Set Frequency**). These options are available under **Refresh** in the log toolbar.
- After changing the **Activity Properties** of individual activities, when the schedule sheet is refreshed manually or through **Schedule** refresh, the entire schedule sheet will be re-scheduled. The impact on dependent activities can be reviewed after refresh.
- The refresh status of schedule sheet is displayed on **Schedule Sheet Refresh** window (**History Details** window).
- No updates will take place for resource rates on the master schedule sheet and also update to shell cost sheet with corresponding assignment costs until you allow manual scheduling through manual or **Schedule** refresh. After the schedule sheet is manually scheduled, the updates will take place.
- When you go to the **Edit** menu, select **Update**, and then select **Resource Utilization** (on the master schedule sheet) or **Resource Utilization and Cost Manager**, the following alert message is displayed: *Cannot update cost till Sheet is scheduled*.

Calendar

When the calendar that is defined for a particular **Activity** is changed in the **Activity Properties**, Unifier changes the **Finish Date**. In this case, if the auto-scheduling is *disabled*, no impact of this change is reflected in the dependent activities.

When the calendar that is defined for a particular **Schedule Sheet** is changed in the **Schedule Sheet Properties**, the next time you open the schedule sheet, the following message is displayed: *Schedule sheet requires a refresh due to modifications to a Calendar or Rates associated to a Role on a Resource. Do you want to refresh schedule sheet?*

If you select **Yes**, the schedule sheet will be rescheduled on refresh, as an impact of Calendar change, irrespective of whether Auto-scheduling is enabled or disabled.

If you select **No**, no impact of Calendar change is reflected in the schedule sheet.

Activity Manager

The system enables you to create, consolidate, and monitor activities that must be completed on a schedule by way of the **Activity Manager**.

The **Activity Manager** grouping node contains the following sub-nodes, when available:

- **Activity Sheet**
- **OBS Sheet**
- **Rate Sheet**
- **WBS Sheet**

Note

- To view the **Activity Sheet**, or other sheets, you must have the appropriate permissions.
- To view additional information that might be minimized, select the split screen icon () at the bottom of the window for the selected sheet.

To access the **Activity Manager** node:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager** to expand it.

The following provides summary details about each functional node (sub-nodes).

Activity Sheet functional node

The **Activity Sheet** sub-node contains a list of activity sheets listed in the **Activity Sheets** log. You can have multiple activity sheets.

An activity sheet captures scheduling data from mapped P6 or Oracle Primavera Cloud projects and role and resource rates from the company-level Master Rate Sheet (default) or shell-level rate sheets, and calculates the Earned Values metrics and derivatives. When Unifier, Oracle Primavera Cloud, and Oracle Integration are integrated, you can use Oracle Integration recipes to update the System Activity Sheet or the Master Rate Sheet (or both) in Unifier with information from Oracle Primavera Cloud. A **System Activity Sheet** is the primary source of data for the Earned Value Analysis.

OBS Sheet functional node

An **OBS Sheet** (Organization Breakdown Structure sheet) contains the following information:

- Full Name
- Short Name
- Unifier User
- Title
- Department
- Status
- WBS Name
- Contract No
- Weekly Capacity

The OBS Sheet node log displays the only available OBS sheet.

Refer to the *Unifier Earned Value Management User Guide* for details.

Rate Sheet functional node

The **Rate Sheet** node captures the list of resources and roles (based on the latest data available in activity sheet) and corresponding rates from the Master Rate Sheet.

In P6/Oracle Primavera Cloud, users can assign a role, or resource, to an activity under the Assignments tab of an activity for any project. In P6/Oracle Primavera Cloud, rates are assigned to a role or resource at global level. To maintain the consistency, the system will import the P6/Oracle Primavera Cloud global data to Unifier Company Workspace. This data

will be captured under a new entity called Master Rate Sheet. The rate sheet being created through P6/Oracle Primavera Cloud to Unifier integration will be saved as 'Master Rate Sheet' under a new node in Company Workspace called Master Rate Sheet.

The rates (Price/Unit) for assigned roles and resources are managed at global level in P6/Oracle Primavera Cloud, which can then be used in a project while doing the costing (calculating Present Value, Earned Value, and so on) of the project depending on the rate source (resource, role, or override) corresponding to that assignment in an activity.

For a resource loaded schedule, the system needs rates corresponding to roles and resources for costing of any project in Unifier. There are two types of rate sheets:

- Master Rate Sheet (at Company Workspace)
- Rate Sheet (at Shell) explained in the subsequent sections.

A company will only have one Rate Sheet called the "Master Rate Sheet." So, users are not allowed to create a copy sheet of the Master Rate Sheet under Company Workspace. This sheet will contain rates for both roles and resources, users will be able to toggle between resource and role rates from the display. By default, the rates present in master rate sheet will be used across all the resources and roles present in all activity sheets across all shells unless user has assigned another rate sheet present at the shell level to the activity sheet/project.

To override the price or unit. The Planning and Actuals will be fetched from corresponding Rate Sheet or Overridden Price/Unit from override action. Whenever a different Rate is assigned to a Resource, system will display the following alert message: Perform Recost to see updated costs.

Refer to the *Unifier Earned Value Management User Guide* for details.

WBS Sheet functional node

A **WBS Sheet** (Work Breakdown Structure sheet) contains the following information:

- Planned Units
- Planned Total Cost
- Actual Units
- Actual Total Cost
- Remaining Units
- Remaining Total Cost
- At Completion Units
- At Completion Total Cost

The WBS Sheet node log displays the only available WBS sheet.

Refer to the *Unifier Earned Value Management User Guide* for:

- Details about the functional nodes, mentioned above.
- Information related to the **System Activity Sheet**, **Master Rate Sheet**, and **Rate Sheet**.

Activity Sheet Sub-Node

The **Activity Sheet** sub-node contains a list of activity sheets (including the **System Activity Sheet**), and they are all listed in the **Activity Sheets** log.

You can have multiple activity sheets.

You can create User-Defined Reports (UDRs) from the Activity Sheet Data Elements (DEs).

The system uses the following schedule types to determine the activity schedule when sending activity data to the Cash Flow:

Note

The Cash Flow properties will be displayed based on the activity sheet schedule type.

Type	Description
Resource	The Activity Sheet receives the entire duration based information from P6. The Activity Sheet receives the entire resource assignment related information. (Not always) The Activity Sheet receives the entire cost related information. The Activity Sheet is available as a source for Cash Flow and Cost Sheet. The Activity Sheet has all cost related feature. (Assign rate sheet and Recost.) The Activity Sheet is available for Earned Value Analysis.
Cost	The Activity Sheet receives the entire duration based information from P6. The Activity Sheet receives the entire resource assignment related information. The Activity Sheet receives the entire cost related information. The Activity Sheet is available as a source for Cash Flow and Cost Sheet. The Activity Sheet does not have any cost related feature. (Assign rate sheet and Recost.) The Activity Sheet is available for Earned Value Analysis. Note The system uses the data directly from P6 and does not perform any calculations for a cost loaded schedule.

Type	Description
Duration (without 'Based')	The Activity Sheet receives duration based information from P6. (Not always) The Activity Sheet receives resource assignment related information. (Not always) The Activity Sheet receives cost related information. The Activity Sheet is not available as a source for Cash Flow and Cost Sheet. The Activity Sheet does not have any cost related feature. (Assign rate sheet and Recost.) The Activity Sheet is not available for Earned Value Analysis.

The following explain the **Activity Sheets** log elements, followed by information regarding manual activity sheets.

Activity Sheets Log and Manual Activity Sheets

The **Activity Sheets** log contains a list of manually created activity sheets, which have a **Source Type** of **Custom**, and the **System Activity Sheet**, which is produced when you integrate Unifier with another product, such as Primavera P6.

All the activity sheets that are defined in Unifier will be displayed with source type as 'Custom' in the **Activity Sheets** log.

Manual Activity Sheet

To create and maintain project schedules within the system, you can manually define activity sheets.

A manual activity sheet captures the:

- Schedule of activities, within a project
- Resource assignments
- Rate

Note

When you assign resources or roles that have multiple rates to an activity sheet, to update the total cost (Total Cost value), you must reschedule, or recost, the activity sheet. Otherwise, the system assigns earliest assigned resources or roles rates (price/unit) to the activity sheet, and you cannot view the correct accumulated cost.

A manual activity sheet also tracks the progress of activities, over the lifetime of the project.

Note

For information about the **System Activity Sheet**, refer to the Activity Manager section in the *Unifier Earned Value Management User Guide*.

You can use an activity sheet to:

- Define simple project schedules.
- Define tasks, milestones, and relationships between tasks, to enhance user experience.
- Assign resources and track project progress by capturing actuals and calculating remaining work that needs to be done.
- Assign CBS codes to Baseline activities.

In an activity sheet, you can:

- Set the view to WBS and add activities or update and remove the activities in the **WBS** view, similar to the **Default** view.
- Include attachments and comments for the activities.
- View the **History Log** (within Activity Sheet and Schedule) by using the **Data Date**.
- Add, edit, and remove the activities and dependencies and assignments in the user-defined views. You can also view the dates, costs, units, and other summary data within the WBS hierarchy view.
- Within the WBS hierarchy, add, copy, or remove the activities in WBS view and user-defined views.
- Add, edit, or remove both the column and row data in user-defined views.
- Add additional notes to the tasks or activities.
- Schedule the activities based on data date and view the schedule history.

In the activity sheet, the **Default** view is shown by default when you open the sheet. In the **Default** view, all the activities are displayed in flat mode.

 Note

Any existing views that you created prior to version 20.10 are not listed in the View drop-down field.

If you create a new view to display only the WBS items, all the activities within the sheet are grouped by WBS hierarchy. At WBS (Summary level), all the costs show the sum of the costs of all the activities, as well as the costs that are received at the summary level.

The **Start** and **Finish** dates, in the WBS row, show the earliest start date and latest finish dates for all the activities under that WBS.

All the attributes defined in the **Activity Attribute** Form are displayed as columns in the **WBS View**, similar to the **Default View**. The order of columns is the same as selected in the design.

Within an activity sheet, you can create views with filters, groupings, and so forth to view the filtered and small list of activities and associated columns, instead of scrolling down and right to navigate to specific activities.

If your administrator defined additional views in a template and pushed them to your project/shell, these views are listed in the **Manage Views** dialog box of your activity sheet. You can make these views visible in your activity sheet, and you can change the order in which they are listed. After they are visible, you can use them to create additional custom views. You cannot edit or delete the predefined views. If the administrator pushes additional updates to the template, custom views that you created are deleted. For more information about views, see [Creating and Managing Views in Activity Sheets and the System Activity Sheet](#).

For the default and user-defined views, you can perform the following functions, in addition to adding, deleting, and updating the activities and the schedules:

- Drag and drop columns and reorder the columns, except the first two columns (Activity ID and Activity Name) which are fixed.
- Select a column header to change the **Sort By** option.
- Right-click a column or column header, and select **Lock after this column** to lock a column.

Note

You cannot lock before this column beyond the **Activity Name** column.

Similar to a Cost Sheet or a WBS Sheet, you can group selected columns in the sheet.

Activity Sheet

The values for the following cost-related units are calculated according to the assignments, as follows:

Planned Cost & Remaining Cost

Planned Cost and Remaining Cost for the assigned resource will be calculated based on the number of the units * the rate per unit.

Planned Cost is calculated as Planned units * price/unit.

If the rate source is an override, the system uses the rate present in the activity sheet that corresponds to that assignment.

The resource rate is derived from the rate based on the effective date between the start and the finish dates.

The exchange rates for that day are applied if the resource/role does not have the same currency as the project.

Remaining Cost

Remaining Cost for the assigned resource will be calculated based on the number of remaining units * price per unit.

If the rate source is an override, the system uses the price/unit for the calculating remaining cost.

Actual Cost

The system calculates the Actual Cost based on the number of actual units * rate per unit.

The rate is based on the Actual Start Date onwards.

The unit rate is based on the effective date which falls on the actual start date.

At Completion Cost

At Completion Cost value is equal to: **Actual Cost + Remaining Cost**.

All the calculated costs (Planned Cost, Actual Cost, Remaining Cost, and At Completion Cost) will be rolled up to the activity sheet and to the:

- Planned Total Cost
- Actual Total Cost
- Remaining Total Cost
- At Completion Total Cost

The following units will be rolled up from **Assignments** tab:

- Planned Total Units
- Actual Total Units
- Remaining Total Units
- At Completion Total Units

Activity % Complete

The system calculates this field as a simple and intuitive formula for **Units % Complete of Activities**, with labor or non-labor assignments:

Activity % Complete = [Actual Units] / ([Actual Units] + [Remaining Units])

Earned Value Calculations at the Activity level:

- Planned Value (uuu_P6PVCost)
This is the planned total cost of the activity that is complete as of the data date.
- Earned Value (uuu_P6EVCost)
The cost of all activities in the project that are actually completed as of the data date.

The **Budget At Completion** is calculated from the project baseline and is calculated as: **Budget At Completion** multiplied by **Performance % Complete**.

- Estimate to Complete (uuu_P6ETC)
The estimated cost to complete the activity, WBS, or project.

It is calculated as **Remaining Total Cost** for the activity or the **Performance Factor** multiplied by (**Budget At Completion** minus **Earned Value**), depending on the **Earned Value** technique selected for the activity's WBS.

The **Budget at Completion** is calculated from the project baseline. The ETC technique will be fetched from the WBS sheet for the respective activity.

- Schedule Performance Index (uuu_P6SPIndex)
A measure of the work accomplished as a percentage of the work scheduled.

The **Schedule Performance Index** indicates whether you are meeting earned and planned values within your schedule. A value less than 1 indicates that less work was performed than was scheduled.

It is calculated as **Earned Value** divided by **Planned Value**.

- Cost Performance Index (uuu_P6CPIIndex)
A measure of the value of work accomplished as a percentage of the actual costs.

The **Cost Performance Index (CPI)** indicates whether you have spent money over the budget to date.

It is calculated as **Earned Value Cost** divided by **Actual Cost**. A value less than 1 indicates that the actual cost has exceeded the planned value.

- Cost Schedule Index (uuu_P6CSIndex)
It is a product of **Schedule Performance Index** & **Cost Schedule Index**.
- Schedule Variance (uuu_P6ScheduleVariance)

The measure of **Schedule Performance Index** on a project. A negative value indicates that less work was actually performed than was scheduled.

It is calculated as **Earned Value** minus **Planned Value**.

- **Cost Variance** (uuu_P6CostVariance)
A measure of **Cost Schedule Index** on an activity, WBS, or project. A negative value indicates that the actual cost has exceeded the planned value.

It is calculated as **Earned Value** minus **Actual Cost**.

- **To Complete Performance Index** (uuu_P6TCPIndex)
The ratio of the remaining work to the remaining funds.

It is calculated as (**Budget at Completion** minus **Earned Value**) divided by (**Estimate at Completion** minus **Actual Units or Cost**).

- **Estimate at Completions** (uuu_P6EACCost)
The expected total cost of a schedule activity, a work breakdown structure (WBS) component, or the project when the defined scope of work will be completed.

It is calculated as **Actual Cost** plus **Estimate to Complete Cost**. The method for calculating estimate to complete depends on the earned value technique selected for the activity's WBS.

- **Budget at Completion** (uuu_P6BAC)
The planned total cost through activity or project completion.

It is calculated as **Planned Labor Cost** plus **Planned Non-labor Cost** plus **Planned Expense Cost** plus **Planned Material Cost**.

- **Variance at Completion** (uuu_P6VAC)
The difference between the baseline total cost and the current estimate of total cost. A negative value indicates an estimated cost overrun.

The **Budget At Completion** is calculated from the current baseline.

It is calculated as **Budget At Completion** minus **Estimate At Completion**.

All the earned value calculations are performed at activity level.

- **Assign a CBS Code at Assignment level:**
You can assign the CBS Code at the resource level similar to the CBS Code assignment at the activity level. CBS code is a picker column which shows active CBS Codes defined in the project cost sheet.

All the costs and units will be rolled up to the cost sheet and cash flow based on the CBS assignment.

Note

All the calculations are performed during recosting.

Cost Sheet

You can roll up all the units (Planned, Actual, Remaining, and At Completion) and costs (Planned, Actual, Remaining, and At Completion) from manual activity sheets, both at the resource and activity level, into the cost sheet by using logical sources.

In the column properties, when you select **From Activity Sheet** as type, the **Sheet Name** drop-down field displays all the active manual activity sheets, and you can select columns (Planned Units, Actual Units, Planned Cost, and so on) at the activity and resource level.

The following columns are displayed when you select the manual activity sheet:

Activity

- Planned Total Cost - cost (uuu_P6PlannedTotalCost)
- Actual Total Cost - cost (uuu_P6ActualTotalCost)
- At Completion Total Cost - cost (uuu_P6AtCompletionTotalCost)
- Remaining Total Cost - cost (uuu_P6RemainingTotalCost)
- Planned Units - units (uuu_P6PlannedTotalUnits)
- Actual Units - units (uuu_P6ActualTotalUnits)
- At Completion Units - units (uuu_P6AtCompletionTotalUnits)
- Remaining Units - units (uuu_P6RemainingTotalUnits)
- Planned Duration
- Actual Duration
- Remaining Duration
- At Completion Duration
- Performance % Complete
- User Defined Data Elements which are of currency and decimal type data elements

Resource

- Planned Cost - cost (uuu_P6PlannedCost)
- Actual Cost - cost (uuu_P6ActualCost)
- At Completion Cost - cost (uuu_P6AtCompletionCost)
- Remaining Cost - cost (uuu_P6RemainingCost)
- Planned Units- Units (uuu_P6PlannedUnits)
- Actual Units- Units (uuu_P6ActualUnits)
- At Completion Units- Units (uuu_P6AtCompletionUnit)
- Remaining Units- Units (uuu_P6RemainingUnits)

If the selected activity sheet becomes inactive, the new data will not be rolled up to the Cost Sheet.

The system changes the value of the current **Sheet Name** from **Activity Sheet 1** to **System Activity Sheet** at both Activity and Resource level.

All the existing columns that are available from the **System Activity Sheet** are displayed for other manual activity sheets that you have selected.

You can pull data from all costs and units and all other custom defined decimal and currency fields from the manual activity sheets.

The cost sheet template (company and shell levels) remains as it is, except that the label will change.

WBS Sheet

You can see the rolled-up value against WBS codes in the WBS sheet.

Activity Sheets Log (Toolbar Options)

The **Activity Sheets** log contains the following toolbar options:

- **Create**
To open the **Create Activity Sheet** window and manually proceed to create a standard, project/shell, or custom activity sheet. See [Creating a Manual Activity Sheet](#).
- **View**
Lets you determine the type of activity sheets that you want to view. Your options are:
 - **Active**
 - **All**
- **Actions**
 - **Permissions**
This option is not applicable to the **System Activity Sheet**. This option is available when you select a single or multiple activity sheets (manual or custom). The functionality is the same as when the **Permissions** option is selected using the *gear menu* (⚙️) option. You can assign permissions to multiple activity sheets that are created manually from the log. This includes the sheets created using import from MPP or P6 XML files.
 - **Assign Rate Sheet**
Use this option to select Rate Sheets for a project. The system uses the resource or role rates from the selected Rate Sheets for both Planning and Actuals to calculate the Planned, Actual, At Completion, and Remaining Costs.
 - **Import**
 - * **Microsoft MPP**
 - * **P6 XML**
- **Get Data into Activity Sheet**
See [Creating a Manual Activity Sheet](#).
- **Send Data from Activity Sheet**
See [Creating a Manual Activity Sheet](#).
- **Refresh**
To update the information displayed on the screen.

When a different rate sheet is assigned to roles and resources or when recost is performed, values in the sheet are not automatically updated. Select **Refresh** to display updated data in the fields.
- **Print**
To print the information displayed on the screen. Your other options are:
 - **Export To CSV**
 - **Export To Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Find on Page**

To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

If you have the **Create Manual Activity Sheets** permission, or the **Full Access** permission (see Activity Sheet in Shell (User Mode) Permissions), the toolbar options in the **Activity Sheets** log are as follows:

Toolbar Option	Description
Create	Lets you create activity sheets. This option is enabled when the user has at least the Create permission for the manual activity sheets. The Create option has two additional sub-options to support the manual creation of an activity sheet and creating an activity sheet from Activity Sheet templates (when the Activity Sheet templates is made available in Admin mode). When you select Create, the system checks for Manual Activity Attribute Form, if a system activity sheet has been created by using the System Activity Sheet Attribute Form. If there is no System Activity Sheet Attribute Form defined, or there is no Manual Activity Attribute Form, in the design, the system uses the canned form for the activities in the activity sheet. An Activity Attribute Form must be defined for you to be able to create custom activity sheets. If a System Activity Attribute Form is defined, but there is no Manual Activity Attribute Form, the system displays this message: Activity attribute form must be defined in order to create custom activity sheets.

Toolbar Option	Description
View	Lets you select how to view the list of the activity sheets that are available. To be able to see any activity sheets in the Activity Sheets log, you must have the View permission, or above. The View drop-down field displays the following out-of-the box, or default, options: • All: To display all the activity sheets. • Active: To display all the activity sheets with active status. Available if there are activity sheets in the log that have active status.  Note The System Activity Sheet will be active (Status) at all times, and the status cannot be changed.
Actions	To set permissions and import options: Permissions: To assign activity sheet-level permissions similar to the record-level permissions set for the non-Workflow BPs. Import (Microsoft MPP or P6XML)

Toolbar Option	Description
Get Data → Get Data into System Activity Sheet	The Get Data option will be enabled when you have the Get Data permission at the node level in the Permissions tab. This option lets you receive the schedules from P6 or Oracle Primavera Cloud based on synchronization selected in Gateway, Primavera Cloud, or Oracle Integration settings. Use the Get Data option to: • Create an activity sheet for the first time. • Update an existing activity sheet with the most recent activity spread data from the Oracle Primavera Cloud project. Updating an existing activity sheet triggers a new OOTB import synchronizations if you have selected the Select Synchronization to Exchange Activity Data option in Gateway integration settings drop-down list. All the synchronized Oracle Primavera Cloud project activities, planned dates, actual, at completion dates, and associated WBS Code will be displayed in the activity sheet. Note A WBS code assignment is applicable only to a manual activity sheet, whereas a CBS code assignment is applicable to both manual and system activity sheets. If the shell is not active (inactive shell), Gateway integration will fail. When you select Get Data, the system checks for the Oracle Primavera Cloud project that as defined in the Integration tab and then brings the Oracle Primavera Cloud project activity data and their schedules into the activity sheet based on the import synchronization defined in Gateway settings, and if Oracle Primavera Cloud and Unifier projects are linked. If you select Get Data and there is no Project ID added in the Integration tab, the system will display this message: Valid Project ID is not specified in the Shell Integration Tab. Unifier does not bring the baseline (project data) from Oracle Primavera Cloud.

Toolbar Option	Description
Send Data  Send Data from System Activity Sheet	The Send Data option will be enabled when you have the Send Data permission at the node level in the Permissions tab. This option lets you receive the schedules from P6 or Oracle Primavera Cloud based on synchronization selected in Gateway settings. Use the Send Data option to run the export synchronization to send the updated activities and schedules from the Unifier Activity Sheet to the Oracle Primavera Cloud. The data elements in the business processes, or the shell attribute form, which have been set to reverse auto-populate (RAP) back to the Oracle Primavera Cloud Activity Sheet (using P6 Activity Picker), will get the latest updates into the Oracle Primavera Cloud Activity Sheet. You can send the updated Activity Sheet data (such as: updated Actual Start Date or Finish Dates) to the Oracle Primavera Cloud project which is linked by way of the OOTB export synchronization option: Update Unifier Activity data in to Oracle Primavera Cloud. The Schedule tab, in the Activity Sheet log, shows this option, and you can set the scheduled send data based on frequency. Before the initial synchronization, the Get Data is the only toolbar function available in the log. Select Get Data to initiate synchronization and create the Activity Sheet.
Refresh	To retrieve the latest number of activity sheets created in the log.
Print	To print the log contents into HTML, CSV, or Excel formats.
Find on Page	To search in the log.

If you do not have the **Create Manual Activity Sheets** permission, or the **Full Access** permission, the toolbar in the **Activity Sheets** log does not display the **Create** option.

Activity Sheets Log (Columns)

The **Activity Sheets** log contains the following columns:

- **Refresh Data:** A Refresh icon  is displayed in this column if the activity calendar is edited in the following areas:
 - Working and Non-working days
 - Working hours
 - Start time of working day

Use the **Refresh** toolbar option to update the sheet based on the new calendar values. The refresh is captured in the **History** tab of the sheet.

- **Name:** The name of the manual activity sheet.
- **Description:** The description for the manual activity sheet.

- **Source Type:** To show whether the source for the manual activity sheet is standard, project/shell, or custom.

Note

The **Source Type** for a **System Activity Sheet** is **P6** or **Oracle Primavera Cloud**.

- **Status:** To show whether the manual activity sheet is active.
- **Last Updated On**
- **Creation Date**
- **Created By**

Activity Sheets Log (Manual Activity Sheet Gear Menu)

To open the Activity Sheets log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.

The **Activity Sheets** log lists the activity sheets. Each activity sheet is listed in a row, and each activity sheet has a *gear menu* (⚙️). The following table explains the functions of each option within the *gear menu*:

Option	Description
Open	To open the Activity Sheet from the log. Alternatively, you can highlight a row, right-click, and use the Open option.
Import Microsoft MPP	To import the activity sheet by way of MPP. This option lets you bring the file from P6 and import them into an activity sheet to create a schedule. The import will remove the existing data from the activity sheet.
Import P6 XML	To import the activity sheet by way of P6 XML. This option lets you bring the file from P6 and import them into an activity sheet to create a schedule. The import will remove the existing data from the activity sheet.
Permissions	To assign Edit , View , and Modify permissions to other users for the selected activity sheets. The functionality supported is same as assigning permissions to Non-Workflow BPs.
Recost	To perform the cost calculations.

Activity Sheets Log (Manual Activity Sheet Properties Tabs)

In the **Activity Sheets** log, when you select an activity sheet (manually created), the following properties tabs appear in the right pane:

- **Properties** tab
- **Permissions** tab
- **Audit Log** tab

- **History** tab

The following table describes the tabs listed above:

See [Creating a Manual Activity Sheet](#) for details.

Tab Name	Description
Properties	The Properties tab displays the following properties of the selected activity sheet, based on the values entered when the activity sheet was created: • Name • Description • Status (Active or Inactive) • Calendar • Select Project Schedule Start Date Source (Manual or From Shell Attribute) • Schedule Start Date Note The Start Date of an Activity Sheet can be before a Project Start Date because a schedule may include activities that were carried out before the project officially starts. • Time Zone (cannot be changed after creation) • Data Date • Schedule Type • Assign Rate Sheet (block) which contains the Rate Sheet (Planning) and Rate Sheet (Actual) fields. • Activity Sequence Numbering (block) which contains the Activity Id Prefix, Activity Id Suffix, and Increment fields, all required. You can change the values for the following fields: • Name • Description • Status • Calendar • Assign Rate Sheet (block) Note Assigning a Rate Sheet is optional. If a Master Rate Sheet is defined at the Company level, it is assigned to the Rate Sheet (Planning) and Rate Sheet (Actual) fields by default; however, you can select a different Rate Sheet for a project. • Activity Sequence Numbering (block) The Project Schedule Start Date can be modified if there are no activities that are in progress in the log. You can modify the activity sequence number in the Properties tab. The modified sequence will be displayed

Tab Name	Description
	for any new activity sheets that are created after the sequence got modified. The activity sheets will not be impacted with this change in the activity sequencing. When changes are made in the Properties tab, the Cancel and Save options will be enabled. There will be an entry in the activity sheet Audit Log tab for the changes made. The Schedule Type field (by default the value is Duration) determines the type as resource-based or cost-based.
Permissions	The Permissions tab lets you view or conduct a user or group search and view the corresponding permissions. Use the Permissions tab to define, edit, or view other members' permissions in the project. The activity sheet owner, or the user with full access permission, will be able to assign, modify, and view other members' permissions. The permissions that are allowed to be assigned to other users are: • Modify Permissions • Edit Data • View The permissions will be similar to record-level permissions set for earned value reports or non-workflow business process. You can select an activity sheet or multiple activity sheets, right-click, and select Permissions. This action lets you assign permissions to multiple groups and users.
Audit Log	The Audit Log tab in the Activity Sheets log captures the following events: • Creation of the sheet. • Update of the activity sheet properties, including the data date and activity sequence numbering field. • Cost Sheet roll up of costs (in the future). The Audit Log tab will be available for the activity sheets that are created manually. The Audit Log tab provides the following details regarding the events that have taken place in the Activity Sheets log: • Date • Event • Action • Field Name • Old Value • New Value • User Name • Proxy User You can use the toolbar options in the Audit Log tab to refresh the list on the page, print (including exporting the list to CSV or Excel), and search and find an item in the page.

Tab Name	Description
History	This tab contains the history information about an activity sheet, based on: • Action • Requestor • Initiated On • Start Date • End Date • Status

Creating a Manual Activity Sheet

The manual activity sheet is mainly used for projects (such as building owners projects) that do not use a P6/Oracle Primavera Cloud and Unifier integration, and the project schedule is simple.

You can create an activity sheet, manually, in the **Activity Sheets** log (**User** mode), and if you have the following permissions, the **Activity Sheets** log displays the following options, in addition to the other options:

- Receive and send the scheduling and resource data into an activity sheet from P6 or Oracle Primavera Cloud
- Create activity sheets both manually and through synchronization with P6 or Oracle Primavera Cloud

Create

If you have the **Create Manual Activity Sheets** permission, or the **Full Access** permission, you will see the **Create** option.

If only the standard activity attribute form is defined but not manual activity attribute form, the **Create** option is not displayed.

Get Data →

Get Data into System Activity Sheet

If you have permission to use **Get Data** only, you will see the **Get Data** option.

The **Get Data** synchronization that created the activity sheet also populates the activity sheet with the:

- Scheduling data (activities along with assignments and spread data) from the P6 projects mapped to the current shell in the **Integration** tabs (**Gateway Integration** for P6 and **Primavera Cloud Integration** for Oracle Primavera Cloud).
- Role and resource rates data from the **Master Rate Sheet** for the mapped projects.

Subsequent updates of CBS Code, Role Rate, and Resource Rate in P6 will not trigger the update of the CBS Code (in the **Activity Sheet**) and Role Rate and Resource Rate (in the **Master Rate Sheet**) in Unifier. This is to prevent data in Unifier from being overwritten by updates in P6.

Send Data ⇨

Send Data from System Activity Sheet

To create an activity sheet, you must use the **Create** option.

Note

The **Get Data** and **Send Data** options are used to create a **System Activity Sheet**.

To create a manual activity sheet:

1. In the **Activity Sheets** log, select **Create** to open the **Create Activity Sheet** window.
2. Proceed to name the manually created activity sheet, determine the status, select a calendar, select the source for the project schedule start date, select the schedule start date, data date, and the activity sequence number.
The **Time Zone** and **Schedule Type** selected in the properties will be saved and cannot be reverted. The **Time Zone** defaults to the time zone indicated in the **User Preference**, and the **Data Date** defaults to the Project Schedule Start Date.
3. When you are done, select **Create**, and select **Yes** when the confirmation message appears.

The following explains the **Create Activity Sheet** window fields and block:

Name

Use this required field to specify the name of the activity sheet. The name specified should be unique. Also, do not use "System Activity Sheet" as the name. The field supports names of 150 characters or less.

Description

Use this long-description field to describe the activity sheet. This field supports alphanumeric characters, as well as all special characters, and can be up to 400 characters in length.

Status

Use this field to make an activity sheet active or inactive. The default status is Active. The activity sheet can later be set as active or inactive through the properties screen. Only the active sheet data will be rolled up to other cost modules like Cost Sheet, EVM Sheet, Cash Flow, and so on.

Calendar

This field lets you select any calendar for the project schedule. You cannot deselect the calendar from the drop-down, but you can change the selected calendar.

This field has the following options to select from:

- Standard (24x7 Calendar or Company Calendar)
- Project / Shell (Project/Shell Calendar)
- Custom (Custom Calendar)

The 'Project/Shell Calendar' is the default value.

The drop-down field lists all the calendars that have been defined at the Custom Calendars node, in the project/shell and company calendars (as defined in Standards & Libraries).

Select Project Schedule Start Date Source

This field lets you select a manual start date, or the start date in the shell properties, for your project (project schedule start date).

- **Manual**
- **From Shell Attribute**

This field is identified as the start date for the project schedule as defined in the activity sheet.

The project schedule start date can be entered manually by selecting the **Manual** option or by using the shell attribute: **uuu_project_start_date**. This is a required field in the activity sheet properties.

If it is selected as manual, you must provide a start date to be able to save the activity sheet properties.

The second option, **From Shell Attribute**, will populate the start date on the activity sheet by using the targeted project start date (**uuu_project_start_date**) on the project/shell properties which in turn can be received from the project creation business process.

Any change in the project start date in shell properties will automatically update the activity sheet start date. Synchronous update to the activity sheet takes place if there is no activity which is either in-progress or has been completed.

Schedule Start Date

If you select Manual in the previous field, this field lets you enter a specific start date for the project schedule.

Time Zone

The field defaults to the User Preference time zone. This time zone is used when saving the activities date and time within the sheet. The users or groups who have view access to this sheet will see the activity dates and times based on the specified time zone.

Data Date

This field displays the date that the project can be scheduled. This date can be the same as the project start date, for initial schedules. The value in this field will populate the data date for the scheduled activity sheet. Initially, the value is the project start date, if no schedule has been run.

Schedule Type

The value in this field is used to determine the activity schedules (as resource-based or cost-based) when the activity data is sent to the Cash Flow. The values can be: **Duration** or **Resource**. The default setting is **Duration**, which renders the field read-only because cash flow only supports a duration-based schedule.

Assign Rate Sheet

Use these optional fields to select Rate Sheets for a project. The system will use the resource or role rates from the selected Rate Sheets for both Planning and Actuals to calculate the Planned, Actual, At Completion, and Remaining Costs.

- **Rate Sheet (Planning)**
- **Rate Sheet (Actual)**

If a Master Rate Sheet is defined at the Company level, by default, the resource or role rates in the activity sheet are retrieved from the Master Rate Sheet and applied across all the projects. If the Master Rate Sheet is selected, the following guidelines apply:

- The system pre-populates the Rate Sheet (Planning) and Rate Sheet (Actual) lists with Master Rate Sheet, which lets a Project Manager assign resources or roles and perform resource management.

- To get the project rates for assignments, users can assign any Rate Sheet that they defined at the project/shell level.
- If the assigned Rate Sheet selection is removed from the Activity Sheet properties, the system defaults to using Master Rate Sheet so that recosting is be done based on rates defined in the Master Rate Sheet.

Note

When an Activity Sheet is created from a shell template, the Master Rate Sheet (if it exists) is also assigned by default.

If a Master Rate Sheet is *not* defined at the Company level, the following guidelines apply:

- The system allows creation of Activity Sheets, and the Project Scheduler can be used to define the activities and their schedules.
- The Assignments tab will be visible, but users cannot add resources and roles.
- If a user accesses the Recost option from the *gear menu* () , the following message is displayed: "No Rate Sheet is assigned to the selected Activity Sheet to calculate costs."

Activity Sequencing Numbering (block)

To define the sequence number for the **Activity ID** while defining activities or tasks in the activity sheet.

The following required sub-fields are available:

Activity Id Prefix (a letter value)

To define the sequence prefix which can be a sequence of characters. The limit on the number of characters will be between 1 to 20. This is a required field, and the default value is 'A.' The field allows alphanumeric characters.

Activity Id Suffix (a number value)

This field defines the suffix for the Activity ID. It allows integer digits from 1 to 6 characters long. The range will be between 1 to 999,999. No negative and decimal values are allowed. The default value will be 1000.

Increment (a number value)

To define the increment that each activity sheet can be incremented. It allows only integer digits from 1 to 1000. The default value is '1.' No negative and decimal values are allowed. The system shows the unique ID for each activity sheet that is defined.

Example

Prefix of A combined with the suffix of 1000 with default increment as '1' would show the activity IDs as A1000, A1001, and so on.

The above activity sequencing format will be retained for all new activities that get created within the Sheet. Any activities that get imported from an external source (MPP or P6 XML) or CSV import then the activity ID column will show the imported IDs if provided otherwise would use the activity sequence defined in the sheet properties to generate a unique Activity ID for all the activities that are imported.

You can change the activity sequencing anytime from the properties window. All the new activities will retain the new sequence format, if the activity sequencing is changed. Any changes to the activity sequence numbering fields will be audited (Audit Log).

Technique for computing Estimate to Complete (ETC)

The technique for computing Estimate to Complete (ETC) is available when you are:

- Creating an activity sheet, or
An ETC user value will be added for the user to select the ETC technique, as explained below.
- In the activity sheet properties (see [Manual Activity Sheet Tabs](#) for details on activity properties).
An ETC user value will be added for the user to select the ETC technique, as explained below.

By default, the ETC technique for the activity sheet is applicable for all the WBS codes and Activities, unless there is a different ETC technique for the WBS or Activity.

The ETC drop-down will have the following values:

1. ETC = remaining cost for the activity, the default setting
2. ETC = $[PF * (\text{Budget at Completion} - \text{Earned Value Cost})]$
PF = 1
PF = $1/CPI$
PF = $1/(CPI * SPI)$
PF = user defined value

After creating the activity sheet manually by defining the properties, the system creates a default activity sheet. You can then update the activities. (If an activity sheet was created by integration, it contains activities that you can subsequently update.)

The **Activity Sheets** page contains the following sections:

- Toolbar
- Log
- Properties tabs. The Properties tabs include Preview, Permissions, Audit Log, and History.

Note

In the process explained above, the **Project Start date (Start)** and **Project Finish Date (Finish)** fields (columns) will not be seen in Unifier version 20.12 or later.

Manual Activity Sheet Default

When you create an activity sheet, after defining the activity sheet properties, the system creates a default activity sheet.

You can populate the newly created activity sheet by way of opening an existing activity in the log.

Note

In the process explained above, the **Project Start date (Start)** and **Project Finish Date (Finish)** fields (columns) will not be seen in Unifier version 20.12 or later.

In the newly created activity sheet:

- **Project Start Date**
Displays the earliest date of all the activities. In the case of a blank activity sheet, the scheduled start date will be the project start date.
- **Project End Date**
Displays the latest date of all the activities on the activity sheet. In the case of a blank activity sheet, the scheduled start date will be the project end or finish date.

The following explains the first five columns displayed in a created activity sheet, in the grid section of the activity sheet:

- **Row Number**
Displays the row number and errors, if any. This is a read-only column, with a sequential number starting from 1 (one).
- **Activity ID**
Displays the activity ID for each added activity sheet. The system uses the default sequence number specified in activity sheet properties to populate the activity ID. You can edit the column and enter custom activity ID for a selected activity sheet. This is a required field and only alphanumeric characters are allowed. Verify that no special characters are entered when defining the activity ID.
- **Activity Name**
Displays the name of the activity sheet. This is a required field and alphanumeric characters are allowed.

 Note

The attachments and notes features will not be seen in the activity sheet in Unifier version 20.12, but are available in version 21.12 and later.

A default lock will be seen after the first three columns.

- **Attachments**
Displays the attachment icon. You can add attachments to the activity sheet in the Attachments tab (in the right pane or dock bottom pane).
- **Notes**
Displays the notes icon. You can add notes for the selected activity sheet in the Notes tab. The functionality will be the same as in the CBS rows. This functionality will allow you to enter the notes. For example, you can use notes to specify the reasons for the change of the activity sheet dates or duration from the initial baseline.

All the other columns are displayed in their defined order, followed by the Notes column. If there is no attribute form defined (for manual activity sheets), all the P6 data elements (uuu_P6 data elements) are displayed as columns.

Manual Activity Sheet

When you open an activity sheet, the **Activity Sheet** window opens. The **Activity Sheet** window contains:

- Toolbar options, including the view options (Baseline Project View or Current Project View), if applicable
- Columns grid

- Activity properties (presented in the **General**, **Dependencies**, **Notes**, and **Audit Log** tabs, below the columns grid).

Each row in the **Activity Sheet** window contains an activity. Each activity has a *gear menu* (⚙️) that lets you:

- **Add Activity**
- **Duplicate**
- **Add Milestone**
- **Delete**
- **Apply CBS Code to All Assignments**
- **Copy**

You can use the toolbar options in the **Activity Sheet** window to:

- Add a rate sheet to the project.
- Schedule the project.
- View, create, edit, and manage log views.
- Filter information by project.
- Switch between schedule types (current or baseline) of the project.

Manual Activity Sheet Toolbar Options

The following table explains the manual activity sheet toolbar options:

Option	Description
 Add	To add a new row. The row will have the Activity ID field value pre-populated with the sequence number specified in the activity sheet properties. The Activity Name field is displayed as required and other required columns will be highlighted with a red triangle on the right corner. Upon selecting Save All, the required fields will show as errors in the first column (similar to manage rows in the cost sheet). • If you select an activity and select Add, the new activity row will be created after the selected activity. • If you do not select an activity and select Add, the new activity row will be created after the selected activity. • If you do not select any activity, the new activity row will be created at the very end.  Note The activity sheet shows the flat list of activities. Any user with edit permissions would be able to add and update the activities to the activity sheet.

Option	Description
Schedule	When you open an activity sheet, the activity sheet details page will be displayed. On this page, when you select Schedule, select a Data Date, and select Schedule Now, the log (upper-right corner) displays a check-mark icon (☑) which indicates the status of the schedule as completed. You can select the icon to open the History Log and review the details of scheduling that have been done to the activity sheet. The Schedule option, in an activity sheet, is similar to the scheduling option in P6. You can use the Schedule option to: • Apply selected data necessary for scheduling the project. • Schedule activities based on Data Date value. When you select Schedule, the Schedule window opens which lets you select a date (from the Data Date field) and select Schedule Now to initiate the scheduling process. • Schedule activity sheet after you added activities and updated activity schedule (such as planned, actual dates, duration, and so forth). • Remove activities. Upon removal of activities, all the dependent activities will be rescheduled based on the Data Date value specified in the schedule. Additional information about the Schedule option: • If you select Schedule in a blank sheet, the system displays this message: There are no activities in the sheet to be scheduled. • Scheduling more than 2000 activities will take time to complete. • Any unsaved changes to the sheet will be lost after the scheduled refresh. • The activity sheet data will be refreshed after the schedule completion. • When you open an activity sheet, from the Activity Sheets log, the activity sheet details page will be displayed, and when you select Schedule, select a Data Date, and select Schedule Now, on the activity sheet page (upper-left corner) the Schedule Status icon (☑) appears (a green dotted circle with a check mark) which indicates the status of the schedule as completed. You can select Schedule Status (☑) to open the History Log and review the details of scheduling that have been done to the activity sheet. • As a part of scheduling, you can use the History Log (also available under Menu Options) to view a lot of the actions that have been performed on the activity sheet. The following actions will be performed as a part of rescheduling: • If the activity start, finish, duration, calendar, or predecessor changes, the system reschedules the successor activities (based on the data date). • If the activity is in progress, the system calculates the remaining duration of the activity (based on the data date) and recalculates the successor activities

Option	Description
	start and finish dates (if not started). The system also calculates the remaining duration for all incomplete activities (based on the data date). • The system moves the activities or tasks that are not finished (based on the data date). This happens even if the expected finish date is earlier than the data date. The system retains the relationship logic for the dependent activities, for example, the system recalculates the start and finish dates for the successor activities. • The system retains the schedule logic. The system moves the activities that are in progress and activities that are incomplete (with finish date earlier than the data date) to the data date which makes the activities the first tasks that must be completed. This also moves the start date of the successor activities to a future date, based on the Lead/Lag time and relationship. • The system recalculates the Float value for all the activities, according to the schedule. • The system recalculates the Critical Path based on the changes in the duration or dates of the activities. The Critical Path is determined by the activities that contain a Total Float of zero. After Resources or Roles have been assigned to activities, you must: • Enter the progress and then recalculate the assignment costs. • Use Schedule to calculate both the Remaining units or costs as well as the At Completion units or costs.

Option	Description
View	To create a view or manage the existing views. You can create and manage views in the activity sheet by using the following options: • Default • Create New View • Manage Views  Note If a view is linked from the template, you cannot delete or modify it. If you created the view, you can modify or delete it. You can also add activities and change column structure in the Default view. Same as in the System Activity Sheet, the View drop-down list displays the system-defined view Default and WBS View, by default. Similar to the other activity sheets, the data creation (both rows and columns) will be available in the default view. The View field lets you create the WBS View which displays all the activities based on WBS codes in one screen as well as the roll-up data for each WBS. In this view, similar to the default view, you can add an activity (select the <i>gear menu</i> , and then select Add Activity) under a WBS code and add information such as the activity name (select in the Activity Name cell) and so forth, such as units and duration. The newly created WBS code can be dragged and dropped under a different WBS. The roll-up, in this scenario, will be calculated automatically. You can use the default view, or the custom view, to add, update, delete, link, unlink activities, milestones, and scheduling.
 Edit View	To open the Edit View window and: • Select a name for your view (View Name). • Access tabs The list of tabs: • Columns tab: To set the contents of columns and lock columns. • Filters tab: To set filters on activity attributes. For example, WBS Code can be set to contain, or not contain, a certain value. • Group By tab: To group activities. • Sort By tab: To sort activities.

Option	Description
Actions	To conduct the following: • Create Baseline, if not available • Update Baseline • Apply CBS Code to All Assignments • Link Selected Activities • Unlink Selected Activities You must have Edit Data permission for the manual activity sheet to be able to use these options. Use the Create Baseline option to create the baseline data for the project schedule defined in the activity sheet. After you create the baseline, the Update Baseline option appears in the Actions list, which lets you update the baseline view with the latest data and date. In the Baseline Project View, the window title shows the name that is given while creating the baseline, and the baseline creation date is shown on the right corner. This date retains the date preference set for the logged in user. Within the Baseline Project View, you can update and assign Cost Codes. The remaining fields are read-only and contain the current project data including CBS and WBS assignments. If you switch to the Current Project View, you can manually update additional fields. You can view the activity sheet details in the General tab. The creation date is populated with the current date. The baseline name defaults to the project schedule name. Use the Update Baseline option to update the baseline data for the project schedule defined in the activity sheet. This option becomes available after you create a baseline. If there are no baselines, the Update Baseline option will be replaced by Create Baseline. You can navigate to the Project Baseline view by selecting Switch to Baseline Project View (this function is similar to the System Activity Sheet, after the baseline is created). You can export all the activities by selecting Menu Options, selecting Export, and then selecting All Activities. Use the Link Selected Activities to link multiple activity sheets. The selected activity sheets are linked with the default relationship (Finish-to-Start) if no relationship exists. For more information, see Dependencies Tab. Use the Unlink Selected Activities to unlink multiple activity sheets.
 Refresh	To update the information displayed on the screen. If there are unsaved changes in the activity sheet and you select Refresh, your unsaved changes will be lost.

Option	Description
 Print	To print the information displayed on the screen. Your other options are: • Print • Export To CSV • Export To Excel  Note – For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. – If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
 Find on Page	To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

Option	Description
 Menu Options	All the existing export and import options available for CBS Code activities and assignments will be seen in the Menu Options. Additionally, the same import options are also available in the Baseline Project View. Depending on your permissions, the Menu Options option lets you: Export - Activity Details - All Activities Use Activity Details to export the CSV template with activity attributes defined in uDesigner. All the columns seen in the activity sheet will be exported. The order of columns seen in the CSV template is the same as in the activity sheet. The Required columns will show additional required symbol in the CSV template. All the existing activities details will be exported. Use All Activities to include all the activities. Import - Activity Details Use Activity Details to import the activities and add new activities if activities do not exist. When you select this option, the existing activities in the sheet will be exported to CSV template. View History Log To open the History Log to see the following: • Action • Requestor • Initiated On • Start Date • End Date • Status Dates and Numeric values displayed in tooltip are based on the user preference set at company-level.

Option	Description
 Gantt	Select Gantt to associate a Gantt chart with an activity and see the baseline comparison (Baseline Comparison icon). You can select the Grid icon to return to the previous view. To split the screen and view the Gantt chart. If applicable, the following toolbar options will be displayed: Grid  Focus Activity  Baseline Comparison  Lets you see the baseline bars along with current activities. The relationship between the current activities will also be seen. Use the Baseline Comparison option to compare the current project dates and costs with the baseline dates and costs and highlight the cells where: • The activity progress is not as expected, or • The activities are delayed (comparing to the baseline). The link to view the baseline data will be seen only when the baseline is created successfully. You can view the schedule comparison of current project data with baseline data by way of selecting the Menu option and then selecting Baseline Comparison. When you select Baseline Comparison, the Baseline and Current Project Comparison window opens. This window displays all the activities comparing the schedules based planned, actual, remaining dates, and other dates. Variance will show the number of days the activity has been delayed, and the number of days the activity has started ahead or on time. By default, all the columns within the current activity sheet will be compared with the baseline. This is shown as Default view. The View option lets you filter the columns that can be seen. You can filter the columns that can be seen in the Baseline and Current Project Comparison window by navigating to Views, creating a view, and filtering the columns displayed.  Critical Path The critical path calculation follows a standard mathematical algorithm known as the Critical Path Method (CPM). The CPM lets you calculate the starting and ending times for each activity. CPM determines which activities are critical (uuu_float = 0) to the completion of the project (called Critical Path) and reevaluates activities with uuu_float values. The tooltip for the current activities will show the current and baseline dates, and the variance in number of days between the baseline start and start dates. The options above let you access a visual representation of the activity-related processes.

Option	Description
	The Show drop-down field will be editable after you select Gantt from the toolbar. This drop-down has the following options: • Default Gantt • Critical Path • Baseline Comparison
Project View options (Baseline or Current), if applicable	Depending on whether a baseline has been set, the following additional links will also be present in the activity sheet page, or in the sheet: • Switch to Baseline Project View (from project view): To see the baseline for the project. • Switch to Current Project View (from baseline view): To add activity and change the activity schedule.

Manual Activity Sheet Gantt View

The **Activity Sheet** node supports the manual Activity Sheets to define project schedules. To be able to view the activities and the relationship between the activities and their associated resources that define the project schedule, the system provides the option to view the **Gantt** chart (bar chart) in the manual Activity Sheets.

The **Gantt** chart provides a representation all the activities of the project in a timeline view, the amount of time each activity is expected to take, the time frame in which an individual task has to be completed, and the relationship between various activities.

The Gantt chart can be launched from both the System Activity Sheet and the Manual Activity Sheet (the Gantt option from the toolbar).

After you select **Gantt**, the right pane will show the Gantt representation of the project schedules, and you will be able to view and perform the following functions:

- Show project schedules activities in a Gantt mode.
- Zoom in or zoom out to view the details of the activities and links.
- Show dependencies between activities (predecessors and so forth).
- Show assigned resources by category.
- Show percent (%) complete for each activity to monitor the progress of the activities.
- Allow changing the activity durations by dragging the bars.
- Allow moving activities from one time frame to another (modifying start and end dates at the same time).
- Allow critical path calculation and viewing activities in the critical path.
- Show tooltips for the activity, link, and milestones.

Increasing duration of activities and moving activities

In Gantt view, you can move the activities (tasks) that do not start ahead of the schedule. The selected activity start and finish dates are updated along with duration. When you select the schedule option from the toolbar, the successor activities start and finish date will be updated along with the current updated activity according to the new data date, and the Gantt view will reflect the changes in activity start and finish dates. The tooltip will show the updated start and finish dates, duration, and so forth upon selecting the activities.

You can increase or decrease the duration of the activity using drag-and-drop of the selected activity. In this scenario, the duration and the Finish Date values will be updated accordingly, for the selected activity.

The following shows the basic keyboard shortcuts for moving activities:

- Tab: Tab to the Gantt view and use the arrow keys to navigate to the task you want to move. You can select multiple tasks and move them together.
- Ctrl + m: Select "Ctrl + m" to enter into the move mode. Use the left arrow and the right arrow keys to move the activities (tasks) horizontally, and use the up arrow and so keys to move the task(s) to different rows.
- Enter: Enter to finalize the move and exit move mode, or Esc to cancel and exit move mode

To perform task resize, use:

- Alt + s
- Alt + e

Manual Activity Sheet Columns

The activity details are presented in columns. The columns are displayed in the order defined in uDesigner, followed by the **Notes** column. If there is no attribute form defined (for manual activity sheets), all the P6 data elements (uuu_P6 data elements) are displayed as columns.

You can change the default view by creating and managing custom views in the **View** drop-down list.

 Note

The attachments and notes features will not be seen in the activity sheet in Unifier version 20.12, but are available in version 21.12 and later.

Columns	Description
Sequence No.	This is a read-only column, with a sequential number starting from 1 (one). The numbering sequence of activities. The column cells are pre-populated with the sequence number provided in the activity sheet properties. The sequence number is a unique value. This column displays the row number and errors, if any. To select an activity, select inside the corresponding Sequence No. cell.
Group By	Grouping activities according to shells. Select the plus (+) or minus (-) symbols to expand or collapse grouped activities.

Columns	Description
Activity ID <label of the uuu_P6ActivityID>	The activity identification number for each added activity sheet, starting with letter "A". The Activity ID column shows color icon-based on the activity status and the activity type. For example, the green rectangular icon indicates that an activity has not started, the yellow rectangular icon indicates that an activity is in progress, the light green rectangular icon indicates that an activity is completed, and the diamond icon indicates that an activity is milestone activity. The system uses the default sequence number specified in activity sheet properties to populate the Activity ID. You can edit the column and enter custom activity ID for a selected activity sheet. This is a required field and only alphanumeric characters are allowed. Verify that no special characters are entered when defining the Activity ID. You can edit the Activity ID column data.
Activity Name <label of the uuu_P6ActivityName>	The name of the activity sheet. This is a required field and alphanumeric characters are allowed. You can edit the Activity Name column data. You must specify the activity name. All the alphanumeric characters are allowed for the activity name.
Attachments	The column with the attachment icon. You can add attachments to the activity sheet in the Attachments tab (in the right pane or dock bottom pane).
Notes	If available, notes related to the activity. You can add notes for the selected activity sheet in the Notes tab. The activity sheet window, or page, also contains a Notes (paper and paper-clip icon) column that indicates whether and activity sheet has a note (entered from the Notes tab in the properties pane), or not. You must have permission to be able to post notes. The functionality will be the same as in the CBS rows. This functionality will allow you to enter the notes. For example, you can use notes to specify the reasons for the change of the activity sheet dates or duration from the initial baseline.

The following shows a list of typical column headings in the **Activity Sheet** window (the default layout):

Columns	Description
Start <label of uuu_P6StartDate>	The start date for the activity. This column is populated with the project start date by default. You can edit the date by selecting date picker in the column. You can edit the date before or later but cannot move the date before project start date. For Activities that are 'In Progress' and 'Completed,' the start date will be the Actual Start Date (uuu_P6ActualStart). For new activities, once the project is scheduled on certain data date, the new activities start date will be by default the data date. Upon scheduling, if the activity is still not started as per the 'Data Date,' then the activity will be rescheduled according to the data date.
Finish <label of uuu_P6FinishDate>	The finish date for the activity. This column is populated with the project start date by default for activities with status 'Not Started'. You can edit the date. When the activity sheet is not scheduled, the 'Data Date' will be the project start date. For activities that have been created after the activity sheet is scheduled (on certain data date), the finish date will be defaulted to the start date which is the 'Data Date'. For Activities that are 'In Progress' and 'Completed,' the finish date will be the date from Data Date plus duration. When an activity sheet has not been scheduled, the 'Data Date' will be the project start date.
Duration <label of uuu_P6Duration>	The duration of the activity. This column is populated with duration as one (1) day by default for regular Tasks/Activities and duration as 0 for the milestone activity. Duration will be updated by means of finish date changes or user can manually update the duration column. Finish date will be calculated accordingly.
At Completion Duration	The total working time from the activity start date to the activity finish date.
Planned Start	The scheduled start date.
Planned Finish	The scheduled finish date.
Planned Duration	The scheduled duration of the activity.
CBS Code	The Cost Breakdown Structure code.
Calendar	The calendar type that has been used.
WBS Code	The Work Breakdown Structure code.
WBS Name	The Work Breakdown Structure name.
Activity Status <label of uuu_P6ActivityStatus>	The default 'Not Started' will be displayed, and the activity icon (seen before the activity ID) will be in blue color, for not started activities. When the Activity Status changes to 'In Progress' or 'Completed' (based on the activity actual start date and finish dates), the color of the Activity ID will be changed accordingly.

Columns	Description
Activity Type	This column is populated with the default value of 'Task Dependent.' You can select other values such as 'Start Milestone' which will automatically the task to milestone with 0 (zero) duration days and 'Resource Dependent' which will preserve the calendars of the associated resources/roles. Resource Dependent activities adjust to resource calendars when resources are assigned.
Planned Start Date <label of uuu_P6PlannedStart>	This column is populated with the default value of Start Date (uuu_P6Start) for the activities with status 'Not Started'. When the project is scheduled by using project scheduler, the values for the Start and Planned Start Date will move to the Current Data Date , if they are past dates.
Planned Finish Date <label of uuu_P6PlannedFinish>	This column is populated with the default value of Finish Date (uuu_P6Finish) for the activities with status 'Not Started'. When the project is scheduled by using project scheduler, the values for the Start and Planned Finish Date will be the Planned Start Date plus Duration. The task dependent activities base their duration on the working and non-working days of the activity calendar, but the resource dependent activities base their duration on the working and non-working days of the assigned resource's calendar. When multiple resources are assigned, the Finish Date of the activity will be based on the time required by the last resource it will take to finish the same task, based on the resource calendar. You can edit the Duration column value in the activity sheet. This field will allow only integer-type data with no negative values.  Note The calendar that you select for each activity will be used to calculate the finish date.
Milestone	When the activity type is selected as 'Milestone,' the system designates the activity as a milestone activity. The duration of a milestone activity is always 0 (zero). You cannot update the duration for milestone activity. The Activity Status for a milestone-type activity can have only two values: 1) 'Not Started' and 2) 'Completed.' The default value is: 'Not Started.'

Manual Activity Sheet Tabs

When you open an activity from the list of activities, when available, a series of tabs can be accessed from the bottom of the window, or page, as shown below:

The screenshot shows the 'Activity sheet' window in Oracle Activity Manager. At the top, there's a toolbar with options like Add, Schedule, View, Default, Actions, and Gantt. Below this is a table with columns: Activity ID, Activity Name, WBS Picker, Start, Finish, Duration, Activity Status, Activity Type, Duration Type, Activity % Complete, Planned Start, Planned Finish, Planned Duration, and Actual. The table contains one row for activity A1000. Below the table, there's a 'Total: 1' summary. The sidebar on the left has tabs for General, Assignments, Activity Spread, Dependencies, Notes, and Audit Log. The 'General' tab is active, showing 'Key Information' for activity A1000, including its name, start/finish dates, and duration. A red box highlights the 'General' tab, and a red arrow points to the 'Activity Spread' tab.

The following explains the activity sheet properties tabs:

General

The **General** tab provides information about **Activity Name**, **Start** date, **Finish** date, and so forth.

Assignments

The **Assignments** tab lets you view the resources and roles assigned to the activity selected in the main grid. See [Assignments Tab](#).

Activity Spread

In the **Activity Spread** tab, you can see the spread data of the selected activity. The **Activity Spread** tab lets you select the values for:

- **Frequency**
The Frequency drop-down field enables you to select the frequency of the spread in:
 - Day
 - Week
 - Month
 - Year
- **Cost & Rate Type**
Enables you to select:
 - All Cost Types |Direct
 - All Cost Types |Indirect
 - Standard |All Rate Types

Dependencies

The **Dependencies** tab provides information about activity predecessors and successors. Depending on your permissions, you can use the **Add** option to add activities in either category. See [Dependencies Tab](#).

Notes

Use the **Notes** tab to enter comments regarding the activity; when you are finished, select **Post**. You must have permission to add notes.

Audit Log

Displays the audit details at the activity level in the following columns:

- Date
- Event
- Action
- Field Name
- Old Value
- New Value
- User Name
- Proxy User

Assignments Tab

Use the **Assignments** tab to view the resources and roles assigned to the activity selected in the main grid. The costs associated with the resources allocated for an activity will be calculated and rolled up to the Activity and WBS level summaries. The cost associated with each resource will be calculated based on the number of total planned units * price per unit.

Note

The **Assignments** tab is not available for the milestones or WBS Summaries.

The following toolbar options will be available in the **Assignments** tab:

- **Assign**
 - **Resources**
 - **Roles**
- **Refresh**
- **Print**
 - **Print**
 - **Export to CSV**
 - **Export to Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Find on page**

The **Assignments** tab log displays the following fixed columns, as seen in the **Assignments** tab for the *System Activity Sheet*:

- Resource Name
The Resource Name is read-only and is populated according to the assigned resource, as defined in Master Rate Sheet regardless of the status.
- Role Name
The Role Name is read-only and is populated according to the assigned role, as defined in Master Rate Sheet regardless of the status.
- Rate Source
- Cost Code
- Planned Units
- Actual Units
- Remaining Units
- At Completion Units
- Price/Unit (Planning)
- Price/Unit (Actuals)
- Planned Units/Time
- Remaining Units/Time
- Start
- Finish
- Duration (hrs)
- Planned Start
- Planned Finish
- Planned Duration (hrs)
- Actual Start
- Actual Finish
- Remaining Early Start
- Remaining Early Finish

- Planned Cost
- Actual Cost
- Remaining Cost
- At Completion Cost
- Profile

All the duration columns are also displayed:

- Planned Duration
- Duration
- Actual Duration along with dates
- Remaining Duration along with dates

The system calculates the duration based on Finish - Start for all date types.

The following columns in the **Assignments** tab log are required:

- Start
- Finish
- Planned Start
- Planned Finish
- Planned Units/Time
- Remaining Units/Time

You can edit all the columns in the **Assignments** tab log except the Planned and Actuals Price/Unit for which the value will be populated from the assigned rate sheet for the resources. The rate displayed will be based on the current date (the rate as of the current date as an effective date). You can edit this column only if the rate source is selected as **Override**.

Note

Finish dates, such as Finish, Planned Finish, and so on, must be December 31, 9999, or earlier. If you enter a date later than that, an error occurs.

Planned Units/Time column will populate with the default number of units that the assigned resource is available for, per hour. By default, this value will be populated from the Master Rate Sheet. You can edit the Planned Units/Time column, which means that you can increase or decrease the resource capacity, per hour. Only numeric values are allowed for the Planned Units/Time. The AtCompletion units will be set to the same value as the Planned Units/Time.

Remaining Units/Time column will populate with the default number of units that the assigned resource is available for, per hour. By default, this cell value will be populated with Planned Units/Time but can be editable. Only numeric values are allowed for the Remaining Units/Time.

Planned Units column is editable. By default, the Planned Units will show the calculated value which means the number of working days between the planned start and planned finish date times, based on the Activity calendar, multiplied by the number of the Planned Units/Time.

Remaining Units is by default calculated as Number of working days between Remaining start and Remaining end date times the number of Remaining Units/Time.

Actual Units can be entered manually. If the Actual Units for the resource assignments is entered manually, the Activity Status will be 'In Progress'. The actual cost will be calculated based on the number of units per day and rate per effective date. You can enter the units manually or through P6 XML or Microsoft Project import.

When a resource/role is assigned to an activity in the **Assignments** tab, the Planned Start and Planned Finish dates will be defaulted to show the Start (uuu_P6Start) and Finish (uuu_P6Finish) dates of the activity. The system should allow modification of these dates.

Remaining Units will default to the AtCompletion Units - Actual Units for Not Started activities. When you enter the Actual Units, the Remaining Units will not change unless you updated the Remaining Units manually.

When you update the AtCompletion Units, the Remaining Units will be AtCompletionUnits - Actual Units

AtCompletion Units will be calculated as Actuals Units + Remaining Units.

The *gear menu* () options for the resource, in the **Assignments** tab, vary depending on the project type. The *gear menu* options are:

- **Add Resource**
This option enables you to open the **Resource Picker** and select a resource to add.
- **Add Role**
This option enables you to open the **Role Picker** and select a role to add.
- **View Assignment Spread**
This option (for any selected resource) displays the spread data for that resource, in a split screen **Assignment Spread of <resource>** at the bottom of the window. In the **Assignment Spread of <resource>** screen you can set the frequency and the cost and rate type to see the following details for your selections. The **Cost & Rate Type** field enables you to select either a **Cost Type Grouping** or a **Rate Type Grouping**.
 - Period Start
 - Cost & Rate Type
 - Planned Units
 - Actual Units
 - Remaining Units
 - At Completion Units
 - Planned Cost
 - Actual Cost
 - Remaining Cost
 - At Completion Cost
- **Remove**
This option enables you to remove the assignment and its associated costs. When an existing assignment is removed, the resource assignment and the associated costs will be removed and subsequently all the costs at the activity level will be recalculated based on the updated or changed assignments list.

The additional options seen will allow the user to add new resources or roles using resource or role picker and remove the existing assignments.

You can add the resources or roles from the activity sheet grid (right-click, select **Assign**, and then select **Resource** or **Roles**). When selected, the **Add Resources** (a resource picker)

window will be displayed which displays all the active resources available in the company *Master Rate Sheet*.

The resource picker user interface, and the function, is same as when accessed by way of the **Assignments** tab.

The resource picker will show all the resources whether they were created manually or created through receiving from a source, such as P6. You can select one or multiple resources from the list and contains the following columns:

- **ID**
Displays the ID of the resource.
- **Name**
Displays the name of the resource.
- **Type**
Displays the type of the resource. It can be Labor, Non-labor, and Material type.
- **Status**
Displays the status of the resource.
- **Source**
Will display either as Unifier or P6 currently based on the resources created in the Master Rate Sheet.

When you assign the resource, a row will be inserted in the Assignments tab, and the following data will be populated for that row:

- The Planned start and Planned finish date will default to the `uuu_P6plannedstart` and `uuu_P6plannedfinish` of the activity and can be edited. Similarly, the:
 - Assignments Start and Finish will be defaulted to `uuu_P6Start` and `uuu_P6Finish`.
 - Remaining Start and Remaining Finish will be defaulted to `uuu_P6Remainingearlystart` and `uuu_P6Remainingearlyfinish` of the activity.
 - For an activity that is In progress, if any new assignment is added, the new assignment will default the actual start date to `uuu_P6ActualStart` of the activity.
 - For an activity that is Completed, if any new assignment is added, the new assignment will default the actual start date and actual finish date to `uuu_P6ActualStart` and `uuu_P6ActualFinish` of the activity.
- The Price/Unit (Planned and Actuals) will be populated with the standard rate, defined for the resource in the Master Rate Sheet, and the columns are editable if the rate source is selected as Override, similar to the *System Activity Sheet*.

You can assign the Rate Sheet per activity sheet in the log, and the rates defined in that selected Rate Sheet will be retained for calculating costs for units spread. If there is no rate defined in the assigned rate sheet on an effective date, the rate will be considered as zero (0). The default Price/Unit will show the rate that is the earliest one, at which resource has started (effective rate close to the start date of the assignment).

If multiple effective rates are defined for the assignment, the costs will be calculated based on multiple rates. In this case, the Planned Cost, Actual Cost, Remaining Cost, and AtCompletion Cost will be total of the cost spread.

The Rate Source in the Assignments tab is a drop-down field, and it is editable. You can either pick the rate from the resource or override it for the assigned resources. You can override the rate within the sheet. The Price/Unit will become editable if you select to override both the Planned and the Actuals. If the role is assigned, the rate source will show Role or Override, and the default rate (from the Master Rate Sheet) will be selected, if a rate sheet is not assigned.

When you select multiple activities, excluding milestones, and right-click, you can select the **Assign** option, and then select **Resource** or **Roles**, which enables you to assign a source to multiple activities. The **Resource** and **Roles** options are not available if you select multiple activities, including milestones.

When you copy an activity (select the activity, and select **Copy**), you have the option to also copy the assignments and dependency information, if you need. You can select any activity to copy, regardless of the Activity Status.

Note

When you select **Duplicate** from the *gear menu* () , the activity details will be copied, along with assignments and dependencies.

Fixed Duration

The duration type field will default to **Fixed Duration** in the Activity Sheet Properties.

If the duration type data element is included in the activity attributes, or the activity sheet is created using the standard method or without Activity Attribute Form, the value for the following columns in the **Assignment** tab will be as if duration type selected as **Fixed Duration**, by default.

- Units
- Duration
- Units/Time

The following table details the behavior of duration and unit data elements in the activity sheet and the **Assignments** tab.

Field	Activity Level when Activity % Complete entered/updated	Resource Level when Activity % Complete entered/updated
Start	Start Date of the Activity. When checks it becomes the Actual Start and will set the Actual Start for all Resource Assignments.	Start Date of the Activity. When checks it becomes the Actual Start and will set the Actual Start for all Resource Assignments.
Finish	Defaults to 8 units after the start date. If changed then the Planned Duration will be recalculated as Finished - Started.	Defaults to 8 units after the start date. If changed then the Planned Duration will be recalculated as Finished - Started.
Activity % Complete	You must manually update or enter a value.	You must manually update or enter a value.
Planned Duration	Defaults to the Finished - Started. When changed it will change the Finished date to Started + Planned Duration.	Defaults to the Finished - Started. When changed it will change the Finished date to Started + Planned Duration.
Actual Duration	Actual Duration will be calculated whenever the project is scheduled based on the Data Date - Actual Start Date.	Actual Duration will be calculated whenever the project is scheduled based on the Data Date - Actual Start Date.

Field	Activity Level when Activity % Complete entered/updated	Resource Level when Activity % Complete entered/updated
Remaining Duration	Remaining Duration calculated as Planned Duration - ((1-Activity % Complete) * Planned Duration). This can be edited and will recalculate the Activity % Complete. (Planned Duration - Remaining Duration) / Planned Duration.	Remaining Duration calculated as Planned Duration - ((1-Activity % Complete) * Planned Duration).
At Completion Duration	At Completion Duration is Actual Duration + Remaining Duration.	At Completion Duration is Actual Duration + Remaining Duration.
Planned Units	Planned Units is calculated as Planned Duration * Planned Units/ Time.	Planned Units is calculated as Planned Duration * Planned Units/ Time.
Actual Units	Actual Units can be rolled up from the resource assignments or can be entered manually. If entered manually then the values are pro-rated across the assignments if the assignment has an actual start date.	Actual units will not be updated and can be entered manually. These will then be rolled up to the Actual Units at the Activity level.
Remaining Units	Remaining Units calculated as Planned Units - ((1-Activity % Complete) * Planned Units). This can be overridden and entered manually. If entered manually then the values are pro-rated across the assignments remaining units.	Remaining Units calculated as Planned Units - ((1-Activity % Complete) * Planned Units). This can be overridden and entered manually.
At Completion Units	At Completion Units is Actual Units + Remaining Units.	At Completion Units is Actual Units + Remaining Units.

Dependencies Tab

Use the **Dependencies** tab to:

1. Link one or more activities.
2. Define relationship between activities.

You can also enter predecessor dependencies between a selected activity and another activity. The dependency relation is used to automatically shift activity dates forward or backwards based on changes to the predecessor. This is also reflected in the Gantt chart.

In the predecessor section, you can add predecessor activities, in bulk, by using the **Add** option in the predecessor section. In the successors section, you can add the successors, in bulk, to a selected activity by using the **Add** option in successors section.

Predecessors block

ID

The **ID** column displays the activity ID of the predecessor for the current activity. The **ID** column is added by way of the **Add** option, in the toolbar. This field is editable, and you can change the activity ID. If you enter a value in the **ID** column in the grid and that activity ID does not exist, the system displays an error message. You can only enter alphanumeric characters in the **ID** column.

Activity Name

The value in the **Activity Name** column is populated with the activity ID that was entered. This is a read-only column in the grid, and you cannot enter or edit the **Activity Name** column value.

Relationship

The following relationship types are supported:

- Finish-to-Start
- Finish-to-Finish
- Start-to-Finish
- Start-to-Start

Lead/Lag (days)

The **Lead/Lag (days)** column enables you to specify the number of days the activity can start ahead (lead), or delayed (lag), by mentioning the number of lead or lag days. This is an integer type field which allows both the negative and the positive integers.

The lead days will be provided by specifying the negative number, and the lag days can be provided by specifying a positive number (specifying the days that the successor activity can be delayed to start).

When you select **Add**, a picker with a list of all activities that were defined in the activity sheet will be displayed. This list does not include activities which are successors and current activity. Can select one or multiple activities as predecessors. The default relationship shown in the grid is Finish to Start after the user adds the activities.

User should be able to select the relationship between the predecessor and current activity by choosing the relationship drop-down and lead/lag days.

The same functionality as seen while adding predecessors is applicable in the case of adding successors in the **Dependencies** tab.

Successors block

ID

The activity **ID** column displays the activity ID of the predecessor for the current activity. This is added via the Add action on the toolbar.

Activity Name

The value in the **Activity Name** column is populated with the activity ID that was entered. This is a read-only column in the grid, and you cannot enter or edit the **Activity Name** column value.

Relationship

The following relationship types are supported:

- Finish-to-Start
- Finish-to-Finish
- Start-to-Finish
- Start-to-Start

Lead/Lag (days)

The **Lead/Lag (days)** column enables you to specify the number of days the activity can start ahead (lead), or delayed (lag), by mentioning the number of lead or lag days. This is an integer type field which allows both the negative and the positive integers.

The lead days will be provided by specifying the negative number, and the lag days can be provided by specifying a positive number (specifying the days that the successor activity can be delayed to start).

When you select **Add**, a picker with a list of all activities that were defined in the activity sheet will be displayed. This list does not include activities which are successors and current activity. Can select one or multiple activities as predecessors. The default relationship shown in the grid is Finish to Start after the user adds the activities.

User should be able to select the relationship between the predecessor and current activity by choosing the relationship drop-down and lead/lag days.

The same functionality as seen while adding predecessors is applicable in the case of adding successors in the **Dependencies** tab.

Bulk Assigning WBS Code to Different Activities

You can highlight the WBS Code column for multiple activities and assign the same code to all the selected activity sheet, by using the WBS picker.

Link Activities (Adding Dependencies)

You can link multiple activity sheets by selecting one or more activity sheets, right-click, and selecting the **Link Selected Activities** option. The selected activity sheets will be linked with the default relationship (Finish-to-Start) if no relationship exists.

The **Predecessor** and **Successor** columns in the **Activity Sheet** log show the activity sheets that are linked based on the Finish-to-Start relationship of the selected activity sheets. This setup will also reflect in the Gantt Chart.

Similarly, you can unlink the selected activity sheets by highlighting one or more activity sheets, right-click, and selecting the **Unlink Selected Activities** option. The **Unlink Selected Activities** option will be available only if the selected activity sheets are linked.

When you link multiple activity sheets (using the **Link Selected Activities** option):

- If the same relationship exists for all the selected activity sheets, the system will not update any values.
- If the predecessor activity has been already added as successor for the highlighted row, the system will display an error message.
- If the successor activity has been already added as predecessor for the highlighted row, the system will display an error message.
- If you select a single activity sheet and try to link (using the **Link Selected Activities** option from **Actions** menu), the system will display an error message.

Manual Activity Sheet Gear Menu

The following explains the *gear menu* () options when you select a single activity. To access an activity:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.
3. Select and open an activity sheet.
4. To the left of an activity, select the *gear menu*.

Note

You can add, duplicate, copy-paste, and delete the activities by using the *gear menu*. Whenever a new activity is created by default, the Activity ID is automatically populated and you must enter all the other mandatory data (such as Name and any other required fields) to be able to save the activity details.

Option	Description
Add Activity	This option should not be available if you select more than one activity row at a time. When you select this <i>gear menu</i>, while highlighting an activity, a new row will be inserted below the selected activity. The Activity ID will have a generated sequence number, and you have to enter the required fields to save the newly created activity row. The Cancel and Save options, in the sheet, will be enabled.
Duplicate	You can select an activity and select duplicate to create an activity with the same information. The new activity will be created underneath the selected activity. All the information related to selected activity (such as dependencies, WBS, and assignments) will be copied into the new activity. The Activity ID will have a generated sequence number, as specified in properties, and you can update the activity information.
Add Milestone	Use this option to create an activity of activity type 'Start Milestone'. The duration of this activity will be always 0. If you change the Change Start Date, the Finish Date will also be updated to the same date as the Start Date and conversely. The Duration field cannot be updated, and it is always read-only.
Delete	You can select one or more activities and select Delete to remove the selected activities. A confirmation message will be displayed and if you select Yes, then the selected activities along with dependencies, assignments, and WBS will be removed.
Apply CBS Code to All Assignments	After you create a Baseline, if the Cost Breakdown Structure (CBS) codes are missing or set incorrectly, use this option to apply the codes to all assignments. If you do not want to apply the same code, you can manually update them on an individual basis.

Option	Description
Copy	When you highlight the activities and select Copy from the <i>gear menu</i> option, the Paste gear menu option will become available. Selecting Copy copies all the activities along with dependencies, assignments, WBS, and actuals, for the selected activities. The other <i>gear menu</i> options will be seen after you select Copy.
Paste	This <i>gear menu</i> option will be seen only if the activities are copied or cut. When you select Paste, a confirmation message will be displayed and if you select Yes, all the activities along with dependencies, assignments, WBS, and actuals will be copied into the destination row selected.

Manual Activity Sheet Start Date, Finish Date, and Duration

The values for the **Start Date**, **Finish Date**, and **Duration** columns are controlled by an automatic formula.

- If you change the **Duration**, the **Finish Date** will change.
- If you change the **Finish Date**, the **Duration** will change.
- If you change the **Start Date**, the **Finish Date** will change.

Note

Finish dates must be December 31, 9999, or earlier. If you enter a date later than that, an error occurs.

These fields also control the display on the **Gantt** chart, and their values can change when you manipulate the activity bar, in the **Gantt** chart.

The **Activity Status** will be changed into 'In Progress' if the **Actual Start Date** is entered.

To edit the activity % complete (progress), you have to enter the **Actual Start Date**. Also, you can change the **Activity Status** to 'In Progress' to change the **Actual Start Date** to the current date and make the activity % complete (progress) editable.

Similarly, when an **Activity Status** is changed to 'Completed,' the **Actual Start Date** and the **Finish Date** will populate with current date, and the % complete value will be: 100%.

You cannot change the **Activity Status** to 'Not Started' if there are values for the **Actual Start Date** and % complete. To change the **Activity Status**, the values for the **Actual Start Date** and % complete must be removed. Also, when the actual finish date is entered, the **Activity Status** will be changed to 'Completed.' When the **Activity Status** is changed to 'Completed,' the actual finish date will be updated.

If you clear the **Start Date** or **Finish Date**, the system displays an alert notifying you that the fields are required. All the date columns (uuu_P6Start, uuu_P6Finish, and uuu_P6Duration) are required columns in the activity sheet. You cannot reset the **Start Date** or **Finish Date**, and the system displays an error message if you attempt to do so.

- If you enter a **Start Date** that is earlier than the **Project Schedule Start Date** (specified in the activity sheet properties), the system displays the following message: "<uuu_P6Start> cannot be earlier than Project Schedule Start Date."
- If you update the Finish Date <uuu_P6Finish> with a date earlier than <uuu_P6Start>, the system displays the following message: "<uuu_P6Finish> cannot be earlier than <uuu_P6Start>."

The **Duration** <uuu_P6Duration> and the **Finish Date** <uuu_P6Finish> values will change based on the activity sheet calendar selected. The **Activity Calendar** drop-down field will show all the calendars that are defined at the project level (which are located, by default, under **Custom Calendars** in the **Schedule Manager**).

The **Activity Status** (uuu_P6ActivityStatus) value will be "Not Started," by default

The **Start Date** and the **Finish Date** values will show the **Project Schedule Start Date**, specified in properties, by default.

The **Activity Type** (uuu_P6ActivityType) value will be "Task Dependent," by default. You can update the task to "Resource Dependent" or "Milestone."

Manual Activity Sheet and CSV Template

This section covers a variety of topics related to using the CSV template to import and update activities.

CSV Template for Activity Details

When you export the CSV template file (select **Menu Options**, select **Export**, and then select **Activity Details**), the order of the columns in the CSV template matches the order of the data elements that are added in the integration phase. You can:

- Add new activities by specifying the details for each row.
- Enter data for all editable data. The values entered in the CSV file will be ignored if that data element is a formula column in the sheet.
- For Unifier version 20.12 and later, the CSV import does not allow activities with dependencies and assignments.

CSV import of activities

The Activity ID is generated using the activity sequence numbering set up at properties level, if no value is provided in the Activity ID column. You can enter only alphanumeric characters in the Activity ID column.

You cannot leave any of the required field in an activity attributes form blank. If the CSV file imported does not have data for all the required fields in the activity attributes form, import will fail.

Only columns that are editable can be updated, for the existing activities. Changes to read-only columns in the CSV file will be ignored.

The WBS Code and CBS Code for the activities can be added for new activities. For the existing activities, the WBS Code and CBS Code for the activities can be updated.

CSV restrictions

The data elements that are added in the Integration tab must match the names, or labels, in the exported CSV template.

All the data elements that are defined in the Integration tab will be seen as column headers in the CSV template. The order of the column headers are as they appear in the Integration tab.

If no integration interface is defined, all the uuu_P6 pre-defined columns will be seen in the CSV template. In this case, the Activity ID and Activity Name will be shown as the first two columns, followed by other uuu_P6 data elements.

The existing rows (activities) must be in the same order as currently seen in the sheet.

The Activity ID and Activity Name columns are shown as required in the exported CSV template, along with other required fields.

During the CSV import (for creating activities), the system performs the following validations:

- Required field validations will be shown, except for the Activity ID which uses the activity sequence specified in sheet properties. New rows will automatically generate the next sequence and show it as a new Activity ID.
- Activity Name is shown as required in the exported CSV template. If you do not enter the Activity Name, the "required field" error message will be displayed.
- Other than the Activity Name (uuu_P6ActivityName), the uuu_P6 data elements which are marked as required in the design will not show as required in the exported CSV template, if there are no default values.
- If you enter the Activity ID value in the CSV template, this input will have high priority. A new row will be created using the Activity ID specified in the CSV template. The Activity ID value column allows alphanumeric values only in the input CSV file.
- If no value is entered, the Activity ID will take the next auto-sequence number that is generated. If you provide the Activity ID, a new activity is created with the value that you enter (provided that there is no activity with the same ID in the Activity Sheet).
- If not available in the input CSV file, the default values will be used for the following columns:
 - Start Date
 - Finish Dates
 - Duration
 - Activity Status
 - Activity Type
 - Calendar
- If the user did not provide any value for these columns in the CSV file, by default the value for the:
 - Activity Status (uuu_P6ActivityStatus) will be: Not Started.
 - Start Date will be the project schedule start date specified in the properties.
 - Finish Date will be the project schedule start date specified in the properties.
- Activity Calendar (uuu_P6ActivityCalendar) will be the default calendar, as the calendar selected in the activity sheet properties window. If the calendar is specified in the CSV file,

the system validates the calendar name to ensure that it is a custom calendar or a company calendar.

- You must specify the entire path for the WBS Picker (uuu_cmwbs_picker) and CBS Picker (bitemID) columns in the input CSV file. Check for valid WBS Code and CBS Code when updating existing activities or importing new activities.
- All the required fields must be entered for the CSV import to be successful.

You will encounter error messages when creating activities by way of CSV import if:

- You enter a Start Date (uuu_P6Start) that is earlier than the Schedule Start Date (act_sch_start_date).
- You enter a Start Date (uuu_P6Start) that is later than the Finish Date (uuu_P6Finish), and conversely.
- You enter an Actual Finish Date (uuu_P6ActualFinish) that is earlier than the Actual Start date (uuu_P6ActualStart).
- The above date-related errors will be displayed when you enter input values for the following date combinations:
 - uuu_P6PlannedStart, uuu_P6PlannedFinish, and uuu_P6PlannedDuration
 - uuu_P6Start, uuu_P6Finish, and uuu_P6Duration
 - uuu_P6RemainingDuration, uuu_P6RemainingEarlyFinish, and uuu_P6RemainingEarlyStart
- You enter the Actual Start Date (uuu_P6ActualStart) that is after the current date.
- If the Start Date (uuu_P6Start) is provided in the input CSV file, but the Finish Date (uuu_P6Finish) is not provided in the input CSV file.
- If the Finish Date (uuu_P6Finish) is provided in the input CSV file, but the Start Date (uuu_P6Start) is not provided in the input CSV file.
- You enter a CBS Code that is currently inactive or does not exist in the Cost Sheet.
- You enter a WBS Code that is currently inactive or does not exist in the Project WBS Sheet.
- The uuu_P6Start and uuu_P6Finish dates are different for the milestone-type activity.

You will encounter the following validations when creating activities by way of CSV import:

- The Start(uuu_P6Start) alone is provided with the Activity Name. In this case, the activity is created with default duration 1 and finish (uuu_P6Finish) same as uuu_P6Start.
- The Duration (uuu_P6Duration) and Start (uuu_P6Start) are provided. In this case, the duration will be calculated based on Finish Date and uuu_activity_calendar.
- The Start (uuu_P6Start) and Finish (uuu_P6Finish) are provided. In this case, the uuu_P6Duration will be calculated accordingly.
- When the Start, Finish, and Duration values are provided. In this case, the Duration will be calculated based on Start and Finish values.
- When you enter Actual Finish Date (uuu_P6ActualFinish) without Actual Start Date (uuu_P6ActualStart). In this case, after the CSV import, the uu_P6ActualStart and uuu_P6ActualFinish will have the same date, and the uuu_P6ActivityStatus will be shown as: Completed

Note

The error validation applies to all dates in the input CSV file.

- When you enter Activity Percent Complete (uuu_P6PercentComplete), you can enter a value for Performance Percent Complete (uuu_P6PerfPercComplete). In this case, the value must be between 0 and 100 (zero and one hundred).
- The value of the Duration (uuu_P6Duration) must be entered in the number of days, in the CSV file. You cannot enter a negative or decimal number.
- You can enter the CBS Code, or WBS Code, for the new activities. When entering the CBS Code, or WBS Code, you must specify the entire path.
- When you enter the Activity Type as "Start Milestone" (for the new activities in the input CSV file), the sheet shows the activity as milestone-type with uuu_P6Start and uuu_P6Finish shows the same date and duration as 0, after a successful import.
- You only enter the uuu_P6Start in the input CSV file for the milestone-type activity.

Using CSV Import to Update Activities

The editable data elements in the activities that exist in the sheet can be updated by using the CSV import, including:

- Activity Name (uuu_P6ActivityName)
- Start Date (uuu_P6Start)
- Finish Date (uuu_P6Finish)
- Duration (uuu_P6Duration)
- Activity Status (uuu_P6ActivityStatus)
- Percent Complete (uuu_Percent Complete)

When updating through CSV import, the system validates the existing activities including:

- Activity Name (uuu_P6ActivityName)
- Start Date (uuu_P6Start)
- Finish Date (uuu_P6Finish)

If the Start Date (uuu_P6Start) exists for an activity and the Duration (uuu_P6Duration) is also provided in the input CSV file, the system calculates the Finish Date (uuu_P6Finish). In this case, if Finish Date (uuu_P6Finish) is provided, the system calculates the Duration (uuu_P6Duration) based on the Finish Date (uuu_P6Finish) and uuu_P6ActivityCalendar.

In the CSV file, for existing activities:

- You cannot change the status of an activity that is "In Progress" to "Not Started."
- The Actual Finish Date cannot be earlier than the Actual Start Date.
- You can update the Percent Complete column. The range of values are 0 to 100 (zero to one hundred).
- When you enter the Actual Start Date (uuu_P6ActualStart) in the CSV file after the import, the system changes the status for that activity from "Not Started" to "In Progress."
- You can update an activity with Actual Finish Date (uuu_P6ActualFinish) status as "In Progress."

- If you update the Actual Finish Date for an activity that has not started (Status = Not Started), the Actual Start Date shows the same value as the Actual Finish Date, and the status shows as "Completed" with the Percent Complete as 100% (one hundred percent).
- If you enter the Percent Complete value without providing an Actual Start Date or an Actual Finish Date, the system dismisses the Percent Complete value.
- For an activity that is in progress (Status = In Progress), if you update the Percent Complete value to 100% (one hundred percent), the system updates the Actual Finish Date to the current date.
- When you update the Actual Start Date and the Actual Finish Date values, the dates cannot be earlier than the Scheduled Start Date.
- When you update the Actual Start Date and the Actual Finish Date values, the dates cannot be later than the Current Date.
- You can add or update the CBS Code (bitemID) and the WBS Code (uuu_cmwbs_picker).
- The system changes the Start Date of the successor activities accordingly and based on the Scheduling.
- You can use reschedule the remaining activities by way of the Schedule option from the toolbar.

New and Existing Activities Through CSV Import

For the new activities with uuu_P6ActivityStatus as "Not Started" the following cases apply for Start, Finish, and Duration:

Note

Invalid values for any of the date and duration columns will result in error.

- If duration is provided without a start date, the duration will be ignored.
- If duration is provided with a start date, the finish date is calculated.
- If the start date and the finish date are provided, duration is calculated.
- If duration is provided without a start date or a finish date, an error message will be displayed.
- If only the duration is provided, an error message will be displayed.
- If only the start date is provided, an error message will be displayed.
- If only the end date is provided, an error message will be displayed.
- If the start date and the duration are provided, the finish date will be calculated.
- If the start date and the finish are provided, the duration will be calculated.

Note

Any new activities created without any dates entered in the input CSV file will retain the Project Start Date.

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	uuu_P6PlannedStart	uuu_P6PlannedFinish	uuu_P6PlannedDuration	uuu_P6RemainingEarlyStart	uuu_P6RemainingEarlyFinish	uuu_P6RemainingDuration	Behavior after Import
No value entered	No value entered	No value entered	No value entered	No value entered	No value entered	No value entered	No value entered	No value entered	Activity will be created with default value as project Start date for Start, Finish, Planned Start, Planned Finish, Remaining EarlyStart, Remaining EarlyFinish.
Valid date entered >= Project Start Date	Valid date >= Project Start Date and > uuu_P6Start	Calculate d field if not provided explicitly	If not provided, should show same as P6Start	If not provided, should show same as P6Finish	Duration calculated between planned start and Planned finish	If not provided, should show same as P6Start	If not provided, should show same as P6Finish	Duration calculated using remaining start and remaining finish	Activity will be created with duration calculated based Start and Finish Dates
No date entered, then same as uuu_P6PlannedStart; otherwise, retain the date entered	No date entered, then same as uuu_P6PlannedFinish; otherwise, retain the date entered	Calculate d field if not provided explicitly	Valid date entered >= Project Start Date	Valid date >= Project Start Date and uuu_P6PlannedStart	Duration calculated between planned start and Planned finish	No date entered, then same as uuu_P6PlannedStart; otherwise, retain the date entered	No date entered, then same as uuu_P6PlannedFinish; otherwise, retain the date entered	Duration calculated using remaining start and remaining finish	Activity will be created with duration calculated based Start and Finish Dates
No date entered, then same as uuu_P6RemainingEarlyStart; otherwise, retains the date entered	No date entered, then same as uuu_P6RemainingEarlyFinish; otherwise, retains the date entered	Calculate d field if not provided explicitly	No date entered, then same as uuu_P6RemainingEarlyStart; otherwise, retains the date entered	No date entered, then same as uuu_P6RemainingEarlyFinish; otherwise, retains the date entered	Not applicable	Valid date entered >= Project Start Date	Valid date >= Project Start Date and uuu_P6RemainingStart	Duration calculated using remaining start and remaining finish	Activity will be created with duration calculated based Start and Finish Dates

The validations mentioned above will be applied to the following dates and durations:

- uu_P6PlannedStart
- uu_P6PlannedFinish
- uu_P6PlannedDuration
- uu_P6RemainingDuration
- uu_P6RemainingEarlyFinish
- uu_P6RemainingEarlyStart

New "In Progress" and "Completed" Activities

In the input CSV file for a new activity creation, the following applies to:

- Actual Start
- Actual Finish
- Actual Duration

The invalid values for any of the date and duration columns will result in error.

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
Valid date entered and on or after Project Schedule Start Date	Valid date entered and >= uuu_P6ActualStart	Not applicable	Not applicable	Not applicable	Activity will be created with Activity Status as "Complete" Activity Complete will be 100% Actual Duration will be duration between Actual Start and Actual Finish. uuu_P6RemainingStart and uuu_P6Remaining Finish will not show any dates as the activity is complete If provided, the remaining dates in the input CSV file for completed activity will be ignored and remaining duration will be 0 (zero)

Note
If not provided in the CSV input file

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

le, the P6 Start, P6 Finish, P6 Planned Start, and P6 Planned Finish

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

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uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

test will be retained.

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
No date entered for uuu_P6Start, uuu_P6Finish and entered uuu_P6ActualStart	No Value provided	No Value provided	No Value provided	Valid value entered	Activity will be created with Activity Status as "In Progress" Activity Percentage as entered in input CSV file Actual Duration will be 0 (zero), if not entered

Note
If not provided in the CSV input file, the P6 Start

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

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uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

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uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
					ained. The uuu_P6RemainingStart will be the Actual Start Date and the uuu_RemainingFinish will be the uuu_P6RemainingStart + uuu_P6RemainingDuration

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
Valid date entered for uuu_P6Start, uuu_P6Finish but no uuu_P6ActualStart is provided.	Valid date entered and on or after Project Schedule Start Date	No Value provided	No Value provided	No Value provided	Activity will be created with Activity Status as "Completed" Actual Start and Actual Finish Dates are shown with same date as provided in Actual Finish Date and Activity % Complete should be 100% (one hundred percent) Actual Duration will be duration between Actual Start and Actual Finish

Note
If not provided in the CSV input file, the

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

P6 Start, P6 Finish, P6 Planned Start, and P6 Planned Finish will be

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior

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uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
					l b e r e t a i n e d . The uuu_P6RemainingStart and uuu_P6Remaining Finish will not show any dates because the activity is complete (if provided in the input CSV file for completed activity, the dates will be ignored and remaining duration will be 0) Actual Duration will be total duration between Actual Start and Actual Finish

uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6ActualDuration	uuu_P6ActivityStatus	uuu_P6PercentComplete	Behavior
No Value provided	No Value provided	Valid value entered for uuu_P6ActualDuration	No Value provided	No Value provided	Activity will be created with Activity Status as "Not Started" Activity Complete will be 0% (zero percent) Actual Duration value will be ignored if entered without uuu_P6ActualStart If the uuu_P6Start and uuu_P6ActualStart are both entered, those dates are retained; otherwise, the uuu_P6Start and uuu_P6Finish will be the project start date, if it exists The uuu_P6PlannedStart will be same as uuu_P6Start, and the uuu_P6PlannedFinish will be same as uuu_P6Finish The uuu_P6RemainingStart and uuu_P6RemainingFinish will be the same as uuu_P6Start and uuu_P6Finish
Valid date entered in uuu_P6Start and uuu_P6Finish Valid date entered and on or after Project Schedule Start Date	Valid date entered and <= uuu_P6ActualStart	Not applicable	Not applicable	Not applicable	Error message indicating that the uuu_P6ActualFinish cannot be earlier than uuu_P6ActualStart

Update Activities

uuu_P6Start	uuu_P6Finish	uuu_P6Planned Start	uuu_P6Planned Finish	uuu_P6Actual Start	uuu_P6Actual Finish	uuu_P6Remaining Early Start	uuu_P6Remaining Early Finish	Behavior after import
For Not Started Activity: Valid date provided	No Change	No Change	No Change	No Value	No Value	No Change	No Change	Activity will be updated with uuu_P6Start update provided uuu_P6Finish will be calculated based on Start and duration All other dates - Planned Start, Planned Finish, Remaining Early Start and Remaining Early Finish will be updated same as Start and Finish Activity status will be "Not Started"

uuu_P6Start	uuu_P6Finish	uuu_P6Planned Start	uuu_P6Planned Finish	uuu_P6Actual Start	uuu_P6Actual Finish	uuu_P6Remaining Early Start	uuu_P6Remaining Early Finish	Behavior after import
No Change	Valid date provided	No Change	No Change	No Value	No Value	No Change	No Change	Activity will be updated with uuu_P6Finish and duration will be recalculated. All other dates - Planned Start, Planned Finish, Remaining Early Start and Remaining Early Finish will be updated same as Start and Finish. Activity status will be "Not Started"

uuu_P6Start	uuu_P6Finish	uuu_P6Planned Start	uuu_P6Planned Finish	uuu_P6Actual Start	uuu_P6Actual Finish	uuu_P6Remaining Early Start	uuu_P6Remaining Early Finish	Behavior after import
No Change	No Change	No Change	No Change	Valid Value entered	No Value	No Change	No Change	Activity will be updated with uuu_P6Start same as uuu_P6Actual Start Planned Start and Planned Finish will not be changed Remaining Early start will be same as uuu_P6Actual Start and Remaining Early Finish will be same as uuu_P6Finish Activity status will be "In progress"

uuu_P6Start	uuu_P6Finish	uuu_P6Planned Start	uuu_P6Planned Finish	uuu_P6Actual Start	uuu_P6Actual Finish	uuu_P6Remaining Early Start	uuu_P6Remaining Early Finish	Behavior after import
No Change	No Change	No Change	No Change	No Change	Valid date entered	No Change	No Change	Activity will be updated with uuu_P6Finish same as uuu_P6Actual Finish Planned Start and Planned Finish will not be changed Remaining Early start and Finish will not show any dates (empty) as the activity is being completed Activity status will be "Complete" Activity percent will be 100% (one hundred percent)

Note

When you change any of the above dates, the system updates the dates accordingly. For activities that are marked as "Not Started," the values for the Start, Finish, Planned Start, Planned Finish, Remaining Early Start, and Remaining Early Finish will be the same.

Add Start Milestone Activity

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid date provided	No value	No value	No value	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the same date as given in input CSV for uuu_P6Start . uuu_P6Duration will be 0 (zero)
No value	Valid date provided.	Valid value provided or not provided.	No value	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the same as uuu_P6Finish uuu_P6Duration will be 0 (zero)

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
No value	No value	No value	Activity Status is provided as 'Not Started'	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the project schedule start date uuu_P6Duration will be 0 (zero)

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
No value	No value	No value	Activity Status is provided as 'Completed'	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Completed" uuu_P6Start and uuu_P6Finish will be the project schedule start date uuu_P6ActualStart and uuu_P6ActualFinish will be the project schedule start date uuu_P6Duration will be 0 (zero) uuu_P6PercentComplete will be 100 (one hundred)

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid date provided	Valid date provided and not same as uuu_P6start	Valid value provided or not provided.	No value	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the same date as given in input CSV for uuu_P6Start uuu_P6Duration will be 0 (zero)
No Value	No Value	Valid value provided or not provided.	No value	Activity type is provided as 'Start Milestone'	No value	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the same date as given project schedule start date uuu_P6Duration will be 0 (zero)

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid date provided	Valid date provided and not same as uuu_P6start or Value not provided	Valid value provided or not provided.	No value	Activity type is provided as 'Start Milestone'	No value	No value	No value	Error message

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uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior

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uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid date provided	Valid date provided and same as uuu_P6start or Value not provided	No value	No value	Activity type is provided as 'Start Milestone'	Valid date provided	No value	No value	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be 'Completed'. uuu_P6ActualStart and uuu_P6ActualFinish will be same date as provided uuu_P6Start and uuu_P6Finish will be the same date as uuu_P6ActualStart uuu_P6Duration will be 0 (zero) uuu_P6PercentComplete will be 100 (one hundred) Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be 'Completed'. uuu_P6ActualStart and uuu_P6ActualFinish will be same

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
								date as provided uuu_P6Start and uuu_P6Finish will be the same date as uuu_P6ActualStart uuu_P6Duration will be 0 (zero) uuu_P6PercentComplete will be 100 (one hundred)

The following dates will show the same date as uuu_P6Start, uuu_P6Finish and uuu_P6Duration for the milestone activities:

- uuu_P6PlannedStart
- uuu_P6PlannedFinish
- uuu_P6PlannedDuration
- uuu_P6RemainingDuration
- uuu_P6RemainingEarlyFinish
- uuu_P6RemainingEarlyStart

Update Existing Activity (Not Started) to Start Milestone

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid value provided or not provided.	Valid value provided or not provided.	Valid value provided or not provided.	Valid value provided or not provided.	Activity type is provided as 'Start Milestone'	Not applicable	Not applicable	Not applicable	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Not Started" uuu_P6Start and uuu_P6Finish will be the same as project schedule start date uuu_P6Duration will be 0 (zero)

Update Existing Activity (In Progress or Completed) to Start Milestone

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
Valid value provided or not provided.	Valid value provided or not provided.	Valid value provided or not provided.	Valid value provided or not provided.	Activity type is provided as 'Start Milestone'	Valid value provided or not provided.	Valid value provided or not provided.	Valid value provided or not provided.	Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Completed" uuu_P6Start and uuu_P6Finish will be the same date as uuu_P6ActualStart uuu_P6Duration will be 0 (zero) uuu_P6ActualStart and uuu_P6ActualFinish will be same date and uuu_P6ActualDuration will be 0 (zero) uuu_P6PercentComplete will be 100 (one hundred) Activity will be created as milestone with Activity Type selected as "Start Milestone" Activity Status will be "Completed" uuu_P6Start and uuu_P6Finish

uuu_P6Start	uuu_P6Finish	uuu_P6Duration	Activity Status	Activity Type	uuu_P6ActualStart	uuu_P6ActualFinish	uuu_P6PercentComplete	Behavior
								h will be the same date as uuu_P6ActualStart uuu_P6Duration will be 0 (zero) uuu_P6ActualStart and uuu_P6ActualFinish will be same date and uuu_P6ActualDuration will be 0 (zero) uuu_P6PercentComplete will be 100 (one hundred)

Manual Activity Sheet (Supported Schedule Types)

Manual Activity Sheets support the following schedule methods (types), which provides flexibility when you are integrating project schedule data with Cash Flow and Cost Management processes.

The following explains each of the manual activity sheet Schedule types:

Duration-Based Schedules

- You can import duration data from Primavera P6 by using the **XML Import** option.
- Project Schedulers and Project Managers can manually define Duration-Based Schedules within the Activity Sheet.
- You can use the sheets as a source for Cash Flow. The **Schedule Type** property in the sheet is used by Cash Flow to determine whether the Activity Sheet is Duration-Based or Resource-Loaded.
- Duration-Based Manual Activity Sheets do not support cost-related functionality, such as assigning rate sheets or performing recosting.
- Duration-Based Manual Activity Sheets are not available for Earned Value Analysis (EVA).

Resource-Loaded Schedules

- You can import resource-assignment data from Primavera P6 by using the **XML Import** option.
- To support cost calculations for P6 resource-loaded projects, the Resource-Loaded Manual Activity Sheets use rates from the Master Rate Sheet.

- Using the **Assignments** tab, you can assign Resources and Roles to activities. Costs are then calculated based on the defined resource or role rates in the assigned rate sheet.
- When the **Schedule Type** property is set to **Resource**, Cash Flow can consume both:
 - Schedule data and
 - Cost Distribution from the Manual Activity Sheet

Manual Activity Sheet Dates

Activities with Status: Not Started

Note

For **Not Started** activities, the dates are always the same for Start, Finish, Planned Start, Planned Finish, Remaining Early Start, and Remaining Early Finish dates.

Start	Finish	Planned Start	Planned Finish	Actual Start	Actual Duration	Actual Finish	Remaining Early Start	Remaining Early Finish
Default to Project Schedule Start Date or to Data Date if the Project Schedule Start Date moved forward. Can modify the date.	Default to Project Schedule Start Date or to Data Date if the Project Schedule Start Date moved forward. Can modify the date. Calculated based on start date + duration.	Default to Start Date. Can be modified.	Default to Finish Date. Calculated based on Planned Start date + duration. Can be modified.	Not applicable.	Not applicable.	Not applicable.	Default to Start Date. Can be modified.	Default to Finish Date. Calculated based on Remaining Start date + duration. Can be modified.

Activities with Status: In Progress

Note

For **In Progress** activities, the Start and Actual Start would always be the same, and the Remaining Early Start will be $\geq$ Actual Start Date.

Start	Finish	Planned Start	Planned Finish	Actual Start	Actual Duration	Actual Finish	Remaining Early Start	Remaining Early Finish
Default to Actual Start Date Can modify the date. If Start date is modified, then update Actual Start date and vice versa. Can be updated by means of the update of Actual Start Date.	Start Date + Duration. Can modify the date >= Start Date.	Planned Start Date will not be updated to latest schedule data dates. Can be modified manually.	Calculated based on Planned Start date + duration. Can be modified.	Can enter date in the column >= project schedule start date. Start will be updated accordingly to align with Actual Start Date. Can be updated by means of Activity Status.	In the attribute form and activity sheet, this field is read-only. The value for this field will be updated as the Duration calculated between Actual Start Date and Duration.	Not applicable.	Default to Start or Actual Start if not scheduled. Can be updated to later date by means of the actual start date or start date. If scheduled, then Remaining Start Date will be Data Date. Can be modified > = Data Date.	Calculated based on Remaining Start Date + Duration If Scheduled, then Remaining Finish will be Data Date + Remaining Duration. Can be modified >= Remaining Start.

Activities with Status: Complete

Start	Finish	Planned Start	Planned Finish	Actual Start	Actual Duration	Actual Finish	Remaining Early Start	Remaining Early Finish
Default to Actual Start Date Can modify the date. If Start Date is modified, then update Actual Start Date and vice versa. Can be updated by means of the update of Actual Start Date.	Default to Actual Finish Date. Can modify the date >= Start Date.	Planned Start Date will not be updated. Can be modified manually.	Calculated based on Planned Start Date + Duration. Can be modified.	Can enter date in the column >= project schedule start date. Can be updated by means of Activity Status.	In the attribute form and activity sheet, this field is read-only. The value for this field will be updated as the Duration calculated between Actual Start Date and Actual Finish.	Not applicable.	Will be empty as the activity is being completed.	Will be empty as the activity is being completed.

Activity Sheet User Defined Report (UDR)

You can create User-Defined Reports (UDRs) from the data present in your activity sheet.

The **Create User-defined Report** window lets you define the following fields for your UDR (template or individual reports):

- **Data Type**
- **Element**
- **Report Type**
 - **Tabular**
 - **Cross Tab**
 - **Summary**
 - **Alert**
- **Access Type**

 Note

The same fields will be available for system and permission-based data sources.

The elements (Currency/Decimal) in the OOTB Activity Sheet, along with any user-defined column, will be available as DEs for your report.

 Note

Only the data elements available in the Activity Sheet will be available in the respective UDR.

Data for reports can be imported to Unifier from the CSV file. You can import data for Date Field, only (if it is in the same format as in the Unifier client). In cases where the client is using mm/dd/yyyy, you have to create custom settings in the CSV file.

In Excel, add the new custom formats as follows:

1. Right-click the applicable cell, and select **Format Cells**.
2. On the **Number** tab, select the **Custom** category, and specify a **mm/dd/yyyy** format.

Roll Up Activity Sheet to Cost Sheet

The **Column Properties** window enables you to select your cost sheets.

The **Type** field enables you to select the following:

- Worksheet
- Activity Sheet

The **Name/ID** field displays the name of the worksheet that you have selected; otherwise, this field displays the Activity Sheet, using the following naming conventions:

- Activity Sheet 01 (Activity) - for Activity Sheet with ID 01
- Activity Sheet 01 (Resource)

If there is no data or sheet for that ID, Unifier displays an error message when you select **OK**, after making the selection, and the value will be zero in the Cost Sheet for that column.

The **Column** field enables you to select the currency and decimal fields from the Activity Sheet that are available to be rolled up into the Cost Sheet as a column.

Assignments

- `uuu_P6PlannedCost` (Planned Cost - cost)
- `uuu_P6ActualCost` (Actual Cost - cost)
- `uuu_P6AtCompletionCost` (At Completion Cost - cost)
- `uuu_P6RemainingCost` (Remaining Cost - cost)
- `uuu_P6PlannedUnits` (Planned Units- Units)
- `uuu_P6ActualUnits` (Actual Units- Units)
- `uuu_P6AtCompletionUnit` (At Completion Units- Units)
- `uuu_P6RemainingUnits` (Remaining Units- Units)

Activity

- `uuu_P6PlannedTotalCost` (Planned Total Cost - cost)
- `uuu_P6ActualTotalCost` (Actual Total Cost - cost)
- `uuu_P6AtCompletionTotalCost` (At Completion Total Cost - cost)
- `uuu_P6RemainingTotalCost` (Remaining Total Cost - cost)
- `uuu_P6PlannedTotalUnits` (Planned Units - units)
- `uuu_P6ActualTotalUnits` (Actual Units - units)
- `uuu_P6AtCompletionTotalUnits` (At Completion Units - units)
- `uuu_P6RemainingTotalUnits` (Remaining Units - units)

Note

The decimal type Data Element (DE) is available in the cost formula.

The **Column Name** field, in the **Cell Details** window, displays the DE field label in the respective Activity Sheet.

Note

You can have from 1 to 100 predefined cost DEs created in the Cost Sheet.

Importing Manual Activity Sheet

You can use (import) data from P6 or Microsoft Project into a Unifier project, including creating or managing activity, activity schedules, dependencies, and resource assignments.

Note

If you select multiple activity sheet or System Activity Sheet, import options will not be seen.

You also have the ability to import project schedules that are maintained in P6 (.xml) or Microsoft Project (.mpp) in the manual activity sheets. You can create a project schedule in Unifier (manual activity sheet) and bring data by way of importing a Microsoft Project file (.mpp). After a successful import, you can see that all the activities, their dependencies, and assignments are created in a new activity sheet.

You can create a project schedule in Unifier (a manual activity sheet) and bring data by way of importing a P6 (.xml). After a successful import, you can see that all the activities, their dependencies, and assignments are created in a new activity sheet.

The imported data can be further used in the earned value calculations, cash flow management, and so forth.

For the manual activity sheets, the system supports:

- Integrating with P6 or Microsoft Project to be able to import activities and related data to a specified activity sheet.
- Adding new activities in an activity sheet, through P6 or Microsoft Project import, with no additional setups.
- Synchronizing matching activities, through P6 or Microsoft Project import.
- Integrating with P6 or Microsoft Project out-of-the-box (OOTB), without any data mapping.
- Importing activity schedules, dependencies, and resource assignments, through P6 or Microsoft Project import.
- Updating the activities that are created, through P6 or Microsoft Project import.

To import from data from P6 or Microsoft Project:

1. Select a manual activity sheet.
2. Select the *gear menu* () , and select either **Import Microsoft MPP** or **Import P6 XML**, to open the source and import either a Microsoft Project or P6 XML file.

The options above are available for the users who have the **Create** permission, at the activity sheet node level.

Note

The *gear menu* displays the same options for any selected activity sheet.

You can export the XML version of an existing project schedule (of an activity sheet) into other sources, such as Microsoft Project or P6 schedules.

The **History** tab contains the details for any import that you have initiated. (Go to the **Activity Sheets** log, select a manual activity sheet, and select the **History** tab in the right pane.)

After a successful import, a new activity sheet will be created.

The import will remove any existing data in the activity sheet. Only activities for the selected activity sheet will be removed. The WBS associated to the activity sheet will not be removed.

The following file formats are supported, for the file upload:

- The .mpp format (Microsoft Project Standard)
- The .xml format (P6 schedule)

The following objects are supported:

- Activity Sheet properties
The project schedule start date and calendar. If there is no calendar, the default project/shell calendar is used, and the earliest start date (across all the activities in the sheet) will be the project schedule start date.
- Activity Sheet
The activity attributes (uuu_P6 elements only), Dependencies (Predecessors and Successors), and Resource Assignments (units and costs).
- WBS Sheet
All the WBS attributes (**WBS Code**, **WBS Name**, and other default mapped attributes).

After the activities are created in the sheet, you can assign a WBS Code (**Select WBS Code** window) to a selected activity by using the WBS picker. By default, all the activities created in the manual activity sheet will show the project-level WBS row as assigned WBS. You can select a single WBS Code from the hierarchy. You can bulk assign the same WBS Code to multiple activities, through drag-and-drop at the cell level within the activity sheet.
- Master Rate Sheet:
Resources/Roles (along with calendars). The Resource ID and Name/Role ID and Name, Currency, Calendar, Default Units/time, type of resource, and standard rates.

You can modify an existing activity sheet data only if you have the **Edit** permission.

The following data from the source file will be copied into an activity sheet:

- Activity Sheet properties
- Activity details
For Not Started, In Progress, and Completed activities: All uuu_P6 activity data elements and other system defined data elements like uuu_successor, uuu_predecessor, and so forth.

For In Progress and Completed activities: The uuu_P6percentcomplete will be updated.
- WBS Summaries
Project WBS Sheet will be updated with the Summary tasks as WBS items, if no data exists.
- Dependencies
All the relationships between the activities will be retained during the import. Those dependencies will be imported as successors and predecessors.
- Assigned Resources/Roles
Master Rate Sheet will be updated with adding new resources and roles.
- Resource Assignments
All the Resources/Roles assigned in the project schedule will be imported, along with units and costs. All activities will show the rolled-up costs and units when there are assignments.

In case of errors, the system aborts the importing process. The **History** tab will contain details about failed or successful imports.

Import Activities (Microsoft Project)

Activities are uniquely identified within one Microsoft Project file by the Unique ID (<UID>). The following applies when importing activities from Microsoft Project:

- New activities inserted
 - A new activity row will be created for each <UID>
 - The <ID> will be copied into Activity ID (uuu_P6ActivityID)
 - The <Name> will be the Activity Name (uuu_P6ActivityName).
 - The Unique ID (<UID>) will be copied from the corresponding Microsoft Project activities.
 - All other default (mapped) elements will be copied into the new activity.
- Dependencies of new activities
 - Dependencies will be added for the new activities (if dependencies exist) using elements within the PredecessorLink tags.
- WBS summaries for new activities
 - The WBS will be identified using the hierarchy provided within the <WBS> tag in the .xml file.
 - This is **WBS Code** field in the source (the .mpp file for each activity in the Advanced tab).
 - All the summary tasks (in .mpp file) will be created as WBS in project WBS Sheet, if they do not exist.
- Resource assignments for new activities
 - When a new activity is created, all assignments for that activity will be created. If the resource does not exist (resource ID does not exist), a new resource will be created in Master Rate Sheet, with resource name from Microsoft Project as resource ID and Name. If the resource exists and matches the source, the resource will not be updated, and the existing resource will be assigned to the activity. If the resource exists but does not match the resource (resource ID is different from the ID in the source Microsoft Project file), you must create a resource with resource ID and Name identical to the source file.

Also, when importing the project schedule by using Microsoft Project (.mpp), for:

- **Activities with start date earlier than the project schedule start date:**
The project schedule start date will show the earliest start date across all the activities and the activities will be imported according to the schedule specified in the import file. In case the project schedule start date is selected (from shell attribute), the system displays: Import has failed as activities have <label of uuu_P6start> earlier than project schedule start date for the selected Activity Sheet. This takes place when importing the project schedule with activities earlier than project start date. Similarly, when the required field values are missing in the source Microsoft Project file, the system displays: Could not add Activity <Activity ID> as <Field1> is required.
- **WBS Code import:**
The summary tasks in Microsoft Project will be imported as a WBS summaries into the project WBS Sheet. All the summaries with hierarchy will be imported as a WBS hierarchies into the Project WBS Sheet. Only the WBS Code and the Name will be populated for the WBS Summaries.

Note

Ensure that you add a new WBS Code and associate the activity, or task, with the existing WBS Code if there is an existing WBS Code (with the same WBS name but different WBS code), when importing the summary tasks as WBS codes.

If the WBS Code exists in the project WBS Sheet, create an activity with the WBS Picker populating the WBS Code. The Used By field, in the project WBS Sheet, will be populated with Activity Sheet that the WBS Code is associated with. Similarly, when the required fields are missing in the source Microsoft Project file, the system displays the message: Could not add WBS <WBS Code> as <Field1> is required.

- **Resources that do not exist in the Master Rate Sheet in Unifier:**

The system matches the resources by resource name, in the Master Rate Sheet.

If the resource is not found in the Master Rate Sheet, the resources will be added with the resource ID and Name because the resource name (from the Microsoft Project), and the source are selected as user-defined (User Defined).

If the resource exists in the Master Rate Sheet with the same name, but the ID does not match, you must create a resource.

The default values will be used for the resources that you create.

If the resource has a required field that is not available in the source Microsoft Project file, the system displays the message: Could not add resource <Resource ID> as <Field1> is required.

- **Roles:**

The Microsoft project resource assignment does not specify a role.

- **Project calendar in the Microsoft Project does not match with the Activity Sheet**

Use the project schedule calendar that is selected for the Activity Sheet. All the imported activities will be adjusted based on the calendar in the project schedule start date.

- **Resource calendar in the Microsoft Project does not match with any calendars available in Standards & Libraries:**

Use the company calendar for the resources that have calendar that do not match. All the imported resource assignments will be adjusted to the company calendar.

- **Currencies and formats:**

All costs will be converted to the shell currency, from the source file, for the activities and assignments.

- **Constraints and dependencies:**

The import process will match the dependencies based on the connected activities. If a dependency is matched, all properties of the dependency will be updated from the Microsoft Project file, based the mapping described earlier. Activities will be moved to retain the new dependency values. By default, all the activities will have the "**As Soon As Possible**" constraint even if there are different constraints set for the activities.

- **Impact on milestone activities:**

You can import the milestone activities into the activity sheet. All the activities that are created as milestone will have activity type selected as: **Start Milestone**.

- **Required fields not part of Import file:**

If there are any required elements in the activity attributes, and the imported file does not have any values for the required elements, the system will display the following message in the History tab, and the import will fail: <field name> is a required field in activity details. Or <field name> is a required field in WBS details.

The above condition applies to all the required elements (in the WBS Sheet and Master Rate Sheet) when importing the WBS Summaries and Resources.

- **Rollback on error:**

The various conditions (such as resources are not matched or no data for required fields) described above can cause the import process to abort. In such cases, all the changes made in the project schedule, by the import, will be reverted.

The errors and warnings will be reported in the History tab (log) for various miscellaneous conditions such as: Activities with start date that is beyond the project start date, and the activity sheet has "From Shell" attribute that is selected for project start date.

You can import the schedule irrespective of the status of the activity sheet.

Creating and Managing Views in Activity Sheets and the System Activity Sheet

You can use the **View** option to access created views, create views, update the existing views, and change the order and visibility. The views that have been created, including **Default**, are listed in the upper segment of the drop-down list. The lower segment of the list includes the **Create New View** and **Manage Views** options.

If your administrator defined additional views in a template and pushed them to your project/shell, these views are listed in the **Manage Views** dialog box. You can make these views visible in your sheet, and you can change the order in which they are listed. After they are visible, you can use them to create additional custom views. You cannot edit or delete the predefined views. If the administrator pushes additional updates to the template, custom views that you created are deleted.

To create a view:

1. Open the applicable activity sheet or the system activity sheet.
2. From the toolbar, select **Create New View** from the **View** list.
3. In the **Save View As** field of the **New View** window, enter a name for the new view.
4. Use the various tabs for adding columns and filtering, grouping, and sorting information.
5. Use the **Columns** tab to select the columns that you want displayed in the view. The **Available Columns** box displays all the columns that you might want to include. The **Selected Columns** box displays all the columns that you select. You can move columns in and out of the **Selected Columns** box.

Use the following fields to set the position of the new view:

- **Left Lock after Column:** Displays a list of all columns, except the last column from the selected columns list. By default, **None** is selected, which means that you have chosen no column to be locked, from the left side of the sheet.
- **Right Lock after Column:** The default value is **None**, which means that you can select not to right-lock the column in the view. Other values in this field are based on the value that you have selected in the **Left Lock after Column**.

In addition to the previous sections, there are three options located after the **Selected Columns** section: **Group Management**, **Group Selected Columns**, and **Delete Group**.

6. Use the **Filters** tab to control what information is displayed in the selected view.
7. Use the **Group By** and **Sort By** tabs to identify which columns should be used for group and sorting and in what order.

8. When you are done, select **Save**.

To update a user-defined view:

1. From within the applicable view, select **Edit View**  in the toolbar.
2. Make the applicable changes.
3. To save your changes, select **Save** or **Save As**.

To manage views:

1. Open the applicable activity or system activity sheet.
2. From within the applicable view, select **Manage Views** from the **View** list.
3. In the **Manage Views** dialog box, make the applicable changes.
 - You can select the checkbox in the **Visible** column to display or hide a view.
 - You can select  to delete a user-defined view.
 - You can select and drag views to reorder the way they will appear in the **View** list.
4. When you are done, select **Save**.

Space Manager

The Space Manager is where you can perform the tasks of facilities management.

Note

You cannot view .DWF files in Google Chrome or Mozilla Firefox browsers.

Using the Space Manager, you can gather data about the levels in your facility (such as floors and parking lots) and the spaces that exist on each level (cubicles, offices, conference rooms, and so on). Categories (called types) of spaces can be designed in uDesigner, and you can then add records of individual spaces to these types and manage them on an electronic sheet.

The Space Manager is a means of organizing all the square footage in your facility to make monitoring, maintaining, and revising your facility more efficient. The Space Manager can be integrated with other managers or business processes (BPs) to give you a broader view of your company's physical capital and resources.

In uDesigner, one attribute form is designed for a “level” type in your facility and multiple attribute forms for “spaces” types. With these attribute forms, you can create a hierarchy of levels and spaces within levels to store the facilities data you choose to collect.

Note

- In the Space Manager, think of a level as the “platform” on which spaces reside.
- Configuration of the Data Picker and Data Elements (and when applicable: Unique and Auto Sequence settings) must be done in uDesigner.

The **Levels Sheet** node in the Space Manager stores the manager sheet (Levels Sheet) on which all the levels in a specific shell are shown. The system automatically creates a Levels

Sheet for every level type that is created. The sheet helps you manage levels and spaces and lets you create formulas to calculate total leasable and rentable space for a facility or building. From the Levels Sheet, you can also automatically update individual level records with data added to the sheet, either manually or via a formula created for a column.

The **Stack Plans** node is where you can create stack plans to show the actual usage of the levels in the company's buildings. You can choose the information (data elements or specific spaces) you want to see on the stack plan and update the plan periodically to keep abreast of changes in the levels' space usage. For example, you might want to know the square footage used by each department on each floor (level) or how many square feet of a floor are vacant versus leased.

The **Levels** node lists all the levels that exist in a specific shell. This is where you can create levels or update existing ones, import data from CSV or Microsoft Excel files, or export templates to CSV or Excel.

The **Spaces** node shows a list of all the space types, and under the space type sub-node, all the spaces that exist in a specific shell. This is where you can create spaces or update existing ones, import or export data from CSV or Excel files, and select spaces to view on the level drawing.

The Space Manager allows you to identify floors and each space by type and associate attributes to the particular spaces. For example, a multi-floor building could have many types of spaces, such as offices, cubicles, restrooms, conferences room, laboratories, and eating areas.

You manage spaces according to space type. Examples of space types are:

- Gross measured area, which is the entire square footage of a floor, from wall to wall
- Common area, such as hallways, lobbies, and entrances
- Usable space, such as cubicles, offices, and conference rooms
- Vertical penetration, which includes elevators, stairwells, and columns

The Space Manager is available within a shell. Each shell can have only one Space Manager and one corresponding Levels Sheet. A building is at the shell level. An example hierarchical arrangement of objects in the Space Manager is as follows:

- Buildings (shell level)
 - Levels (Floors) of the building or other similar structures (in this case, Floor is an example of a level record)
 - * Spaces in the building. These are the various spaces in the structure, such as storage rooms, offices, and other interior spaces (space records). Spaces is a fixed node designed in uDesigner.

Space Manager Prerequisites

The following is a list of prerequisites:

- Generic or CBS shells configured
- Level and Space Attribute Forms defined in uDesigner

Accessing the Space Manager

The Space Manager is available within a shell. Each shell can have one space manager.

To access the Space Manager:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select the applicable Levels Sheet, level, or space.

Quick Calendar

The Quick Calendar is available for Space Manager. For details, see Working with Quick Calendar Entry.

Working with Levels

The **Levels** log enables you to view a summary of Level records, take actions from the log, and make log adjustments as explained in the following sections.

When you select a record in the log, the system opens the **Record Details** tab (on the right side of the page). You can use this tab to view the details of the selected record.

In addition, you can use the log to:

- Print the log based on the current view. This outputs a report similar to a UDR.
- Select the order of the columns in the log and define which columns must be visible.
- Sort on one or many columns within the log.
- Group items based on one column or up to three columns, and define how the groups are sorted and how rows are sorted within the groups.
- Apply filters to individual columns.
- Lock columns so that they are fixed on the left side and the remaining columns scroll on the right side.

Levels Log Options

Levels log toolbar options:

- **Create**
- **Actions**
 - **Import**
 - **Export CSV Template**
 - **Export Microsoft Excel Template**
 - **Bulk Edit**
 - **View Import Audit Log**
Enables you to open the **Import Audit Log - Levels**, which displays the pertinent information regarding the import of CSV or Microsoft Excel files.
- **View**
The system-defined views are:
 - **All Records**
 - **Records Created by Me**

In addition, there are options for you to:

- **Create New View**
- **Manage Views**
- **Edit View**
Enables you to change the settings of the selected View.
- **Refresh**
- **Print**
 - **Print**
 - **Export To CSV**
 - **Export To Excel**
- **Search**
- **Find on Page**
- **Help**

The *gear menu* () options:

- **Open**
- **Copy**
- **Print - HTML**
- **Print - PDF**
- **Print - Custom**

Note

If an attribute form is present, you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Creating a Level Record

You can manually create a record or you can copy an existing record to create a new one.

To create a level record manually:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels**.
3. From the toolbar in the **Levels** log, select  **Create**.
4. In the **Create New Levels** window, enter the values in the required fields.
At this point, you are creating the floor details. If the properties pane does not display, select the three vertical dots icon () to open it. The properties pane contains the following tabs:
 - **Comments:** Contains additional details about the record. You can only add comments to the space attribute in the edit mode.
 - **Linked Records:** Enables you to link records to the space attribute. The functional flow is similar to that of a non-Workflow BP.

- **Linked Mail:** Enables you to link email to the space attribute. The functional flow is similar to that of a non-Workflow BP.
- 5. If you want to include drawing files in the record, select **More Actions**, select **Import drawing file**, and select the applicable file.
- 6. When finished, select **Submit**.
- 7. When the confirmation message appears, select **OK**.
- 8. When the log appears, select **Refresh** .
- 9. Review your recently created level.

To create a level record by copying an existing level record:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels**.
3. In the **Level** log, select a level record, select the *gear menu* , and select **Copy**. The **Create New Levels** window opens with the information from the original level record.
4. Modify the form as needed.
5. To save the new record, select **Submit**.

Viewing or Updating a Level Record

You can view any of the level or space records in the logs. If there are many records listed in a level or space log, you can use search criteria to narrow the options.

To view the details of a level record and its associated drawing:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels**.
3. In the **Levels** log, double-click the applicable record to see the **Levels** window. The window is divided into two panes. The left pane contains the following blocks:

- **General**
- **Floor Plan Image**

The right pane (properties pane) contains the following tabs:

- **Comments**
- **Linked Records**
- **Linked Mail**
- **Audit Log**
Lists all the actions taken by a user (Bulk Edit, Create, and so on).

4. Choose any of the following actions:
 - To update the record, select **Edit**, make the applicable changes, and then select **Save** or **Submit**.
 - To print the record in HTML, PDF, or a Custom format, select **More Actions**, select **Print**, and then select the applicable option.
 - To view associated spaces, select **More Actions**, and select **View Spaces**. If applicable, this action opens the space picker field. The title is "Spaces on <Level

Name>," and the floor name is considered the level name value for the level that you select.

Locating and Opening Space Records from Within a Level Record

To open a space record from a level record:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels**.
3. In the **Levels** log, double-click the applicable level to open it.
4. Select **More Actions**, and select **View Spaces**.
The detail form for the selected space record opens. You can highlight the entire floor and view all available spaces.

Working with Spaces

The **Space** log enables you to view a summary of Space records, take actions from the log, and make log adjustments as explained in the following sections.

When you select a record in the log, the system opens the **Record Details** tab (on the right side of the page). You can use this tab to view the details of the selected record.

In addition, you can use the log to:

- Print the log based on the current view. This outputs a report similar to a UDR.
- Select the order of the columns in the log and define which columns must be visible.
- Sort on one or many columns within the log.
- Group items based on one column or up to three columns, and define how the groups are sorted and how rows are sorted within the groups.
- Apply filters to individual columns.
- Lock columns so that they are fixed on the left side and the remaining columns scroll on the right side.

Space Log Options

Space log toolbar options:

- **Create**
- **Actions**
 - **Import**
 - **Export CSV Template**
 - **Export Microsoft Excel Template**
 - **Bulk Edit**
 - **Print**
 - * **HTML**
 - * **PDF**

- * **Custom**
 - **Delete**

The **Delete** option in the **Delete Records** window is dimmed (grayed out) until you enter a reason for deletion. If you enter the reason and then remove it completely, the **Delete** option is dimmed again. You cannot leave a blank space in the available box and select **Delete**.
 - **Deleted Record History**

Displays the history of deleted items.
 - **View Import Audit Log**

Enables you to open the **Import Audit Log - Space**, which displays the pertinent information regarding the import of CSV or Microsoft Excel files.
- **View**

The system-defined views are:

 - **All Records**
 - **Records Created by Me**

In addition, there are options for the user to:

 - **Create New View**
 - **Manage Views**
- **Edit View**

Enables you to change the settings of the selected View.
- **Refresh**
- **Calendar**

Accesses the [Quick Calendar](#).
- **Print**
 - **Print**
 - **Export To CSV**
 - **Export To Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Search**
- **Find on Page**
- **Help**
- **Expand All Groups**

- **Collapse All Groups**

The *gear menu* () options:

- **Open**
- **Copy**
- **Delete**

 Note

If an attribute form is present, you can hover over the question mark (?) symbol to see more information in the form of a tooltip.

Creating a Space Record

You can manually create a record or you can copy an existing record to create a new one.

To create a space record manually:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **[space type]**.
3. From the toolbar, select  **Create**.
4. In the **General** section of the **Create New [space]** window, enter the values in the required fields.
At this point, you are creating a space. If the properties window is not open, select the three vertical dots icon () to open it. The properties pane contains the following tabs:
 - **Comments:** Contains additional details about the record. You can only add comments to the space attribute in the edit mode.
 - **Linked Records:** Enables you to link records to the space attribute. The functional flow is similar to that of a non-Workflow BP.
 - **Linked Mail:** Enables you to link email to the space attribute. The functional flow is similar to that of a non-Workflow BP.
5. When finished, select **Submit**.
6. When the confirmation message appears, select **OK**.
7. When the log appears, select **Refresh** .
8. Review your recently created space.

To create a space record by copying an existing space record:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **[space type]**.
3. In the **[Space Type]** log, select a space record, select the *gear menu* () , and select **Copy**.
The **Create New [space type]** window opens with the information from the original space record.
4. Modify the form as needed.

5. To save the new record, select **Submit**.

Viewing or Updating a Space Record

You can view any of the level or space records in the logs. If there are many records listed in a level or space log, you can use search criteria to narrow the options.

To view the details of a space record:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **[space type]**.
3. In the **[Space Type]** log, double-click the applicable space record to see the space window.

✓ Tip

You can also open a space record from an advanced log. An advanced log creates a tree hierarchy structure for records. This tree structure makes it easier to view and select records from a log of spaces in the Space Manager. To open a space record from an advanced log, use the middle navigation column to narrow the focus of the log, and then pick the space from the log in the right pane.

The window is divided into two panes. The left pane contains the following tabs:

- **Details**
- **Asset**
Contains the assets associated with the space. If any QBDEs are associated with the record, the **Asset** tab lists the QBDEs. You can select **Create** to open the **Create New Assets** window and enter asset information. The **Create New Assets** window has the following elements:

Left pane: **Asset Details** tab (**General** and **Preventive Maintenance Information** blocks), **Gauges & Meters** tab, and **Components** tab.

Right pane: **Attachments** tab, **Comments** tab, **Linked Records** tab, and **Linked Mail** tab.

The right pane (properties pane) contains the following tabs:

- **Comments**
- **Linked Records**
- **Linked Mail**
- **Audit Log**
Lists all the actions taken by a user (Bulk Edit, Create, and so on).
- **Space Content**
This tab contains the list of records that are associated with the space. A graphical representation is also present for the same. The **Space Content** tab will be similar to the Reference Records seen in the business processes (BPs), with the following differences:

'Reference Records' = 'Space Content'

'Business Process' = 'Record Type'

Objects seen in the link are based on the referring or referred object type.

Similar to Reference records, the **Space Content** tab displays the linked records and the reference records.

1. Choose any of the following actions:
 - To update the record, select **Edit**, make the applicable changes, and then select **Save** or **Submit**.
 - To access the [Quick Calendar](#), select **More Actions**, and then select **Calendar**.
 - To print the record in HTML, PDF, or a Custom format, select **More Actions**, select **Print**, and then select the applicable option.
2. If you change or add any information, select **Submit** to make your changes a part of reference record to the space details or content.

Business Process (BP) Query-based Tab (QBT) in the Space Records

After a BP QBT is configured and the Space is deployed after changes are made, the QBT appears in the Space for which the QBT has been configured.

Working with a Levels Sheet

The **Space Manager** includes a sheet to help you manage levels and spaces. The Levels Sheet lets you create formulas to calculate "leasable" space and other related information in a building. You can create one **Levels Sheet** per shell.

Note

You must have permissions to access a sheet.

To access the Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
If a Levels Sheet exists, it is listed in the **Levels Sheet** log.

The log contains two panes. The left pane lists the sheet for the current project/shell, and identifies its **Name**, **Description**, and the **Last Modified Date**. The right pane displays the **Properties** tab, which displays information such as the **Title** and **Description**, as well as a list of the levels that are included and their individual status.

You can modify and save the properties, provided that you have permission.

3. To view the levels that have been added to the sheet, double-click the name of the Levels Sheet.
4. To ensure that you are viewing the latest information from all levels and spaces in the selected shell, from the toolbar, select **Refresh Sheet Data**.

Note

This toolbar option does *not* refresh the log items that are displayed in the **Levels Sheet** log. Instead, it updates the data that is displayed within the sheet after you open it.

After you select **Refresh Sheet Data**, the **Last Modified Date** field at the log level shows "In Progress" until the data update is complete, after which the date of the refresh is displayed.

Creating a Levels Sheet

When there is no Levels Sheet available, the system displays the **Create** toolbar option. As explained previously, you can only create one Levels Sheet per shell.

Note

You must have the **Create** permission to create a Levels Sheet.

To create a Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. Select **Create**, and select one of the following options:
 - **Manual**
 - **From <shell or project>**
4. Complete the steps for the option that you selected:
 - If you select **Manual**:
 - a. In the **Create Levels Sheet** dialog box, enter a **Title** and optional **Description**.
 - b. Select **All Levels** or **Levels with statuses**.
 - c. If you selected **Levels with statuses**, select the applicable statuses, such as **Occupied** or **Vacant**.
 - d. Select **Save**.
 - If you select **From <shell or project>**:
 - a. In the **Levels Sheet** window, select **Find on Page** to find the applicable project/shell.
 - b. Click **Select**, and follow the prompts.
5. After the sheet is created, from the toolbar, select **Refresh Sheet Data** to refresh the data on a sheet (update the data).

This toolbar option does *not* refresh the log items that are displayed in the **Levels Sheet** log. Instead, it updates the data that is displayed within the sheet after you open it.

After you select **Refresh Sheet Data**, the **Last Modified Date** field shows "In Progress" until the data update is complete, after which the date of the refresh is displayed.

Adding Columns to a Levels Sheet

To add columns to a Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.

4. From the toolbar, select **Add Column** .
5. In the **Datasource** list on the **New Column** window, select the data element to use. The list includes the data elements found on the level form.

The selected datasource determines what additional fields are displayed and whether those fields are predefined.
6. For **Entry Method**, choose how information is entered in the column. Again, the choices depend on the selected datasource.
7. If you selected a datasource that is based on a formula, complete the following steps:
 - a. For **Query Data Type**, select the applicable type.
 - b. For **Formula**, define the formula that you want to use.
 - c. For **Query Conditions**, select the applicable data elements and conditions.
8. For **Data Format**, select the format for numeric columns. The options are:
 - **Show as percentage**: Displays data in percentage. Enter the value using a percent format.
 - **Decimal Places**: Select the number of decimal places to display.
 - **Use 1000 Separator (,)**: Data is formatted using separators. For example, one thousand is displayed as 1,000 with a comma, not 1000.
 - **Negative Number Format**: Select how negative values are displayed: with a negative sign or in parentheses.
9. In the **Additional Options** section, complete the following:
 - a. For **Display Mode**, select **Hide** to make the column invisible to users or **Show** to display it.
 - b. For **Total**, select what is shown in the bottom summary row for each column. The options are:
 - **Blank**: Summary row is blank.
 - **Sum of All Rows**: Displays the sum total of all row values for this column.
 - **User Formula Definition**: Displays the result of the formula entered in the Formula field.
 - c. For **Average**, select **Blank** or the average of all rows.
 - d. For **Column Position After**, select a column from the list to specify its position on the sheet.
10. Select **Save** or **Save & Add New**.
11. To update the information that is displayed on the Levels Sheet, select **Refresh** .

Copying Column Data Within a Levels Sheet

If you want to use column data to view different aspects of information, for example, use an annual charge to view the quarterly charge, you can copy information from an existing column to a new column in which you changes the properties of what is displayed.

To copy column data:

1. Go to the shell tab, and switch to **User** mode.

2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.
4. From the toolbar, select **Menu Options** , select **Columns**, and then select **Copy Column Data**.
5. In the **Copy Column Data** dialog box, complete the applicable fields, and then select **Save**.
6. When the confirmation message appears, select **Yes**.
7. To update the information that is displayed on the Levels Sheet, select **Refresh** .

Exporting CSV or Microsoft Excel Files from the Levels Sheet

Because the Levels Sheet functions as a view of the information tracked in the individual levels and spaces, the system only supports exporting data from the Levels Sheet.

To export a sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. Select a sheet.
4. From the toolbar, select **Menu Options** , and then select **Level Summary Sheet** or **Column Data**.

For more information, see [Exporting and Importing CSV Level Templates and Records](#).

Taking Snapshots of a Levels Sheet

If you have Create permission, you can use the snapshot feature to create a historical picture of the Levels Sheet that you can preserve before the it is modified.

To take a snapshot:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.
4. From the toolbar, select **Menu Options** , select **Snapshots**, and then select **Create**.
5. In the **Create Snapshot** window, enter a **Snapshot Title**, and then select **Create**.
In the window that displays the current snapshot, you can use the **Print** option to print the results or export the results to a CSV or Excel file. You can also use **Find on Page** to locate specific information.

Viewing Snapshots of a Levels Sheet

To view the snapshots for a Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.

4. From the toolbar, select **Menu Options** , select **Snapshots**, and then select **Open**.
5. To open a snapshot, select its title to download the .pdf file of the snapshot.

Printing or Exporting a Levels Sheet

To print or generate a PDF version of a Levels Sheet or to export it to CSV or Microsoft Excel:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.
4. From the toolbar, select **Print** , and select one of the following options:
 - To print the sheet or generate a PDF version, select **Print**.
 - To export the sheet, select **Export To CSV** or **Export To Excel**.

Viewing the Audit Log of a Levels Sheet

To view the Audit Log for a Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.
4. From the toolbar, select **Menu Options** , and then select **Audit Log**.

Changing the Row Coloring of a Levels Sheet

You can use color to change the shading of rows in a Levels Sheet.

To change the colors:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Levels Sheet** log, double-click the sheet to open it.
4. From the toolbar, select **Menu Options** , select **Row Coloring**, and then select **Multi-Color** or **Single-Color**.

Updating the Properties of a Levels Sheet

To view the Audit Log for a Levels Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels Sheet**.
3. In the **Properties** tab on the right pane, make the applicable changes, and then select **Save**.

Working with Stack Plans

A stack plan is a two-dimensional graphical display of facility or building data. Usually, these graphs display area calculations by different attributes (for example, rented, leased, vacant, occupied by a tenant). The y-axis lists levels, and the x-axis lists areas. Stack plans allow you to view area information across all building levels or floors based on defined attributes. Stack plans display only space records. If you have permission, you can create and modify stack plans.

Creating a Stack Plan

To create a stack plan:

1. Go to the shell tab, and switch to **User** mode
2. In the left Navigator, select **Space Manager**, and then select **Stack Plans**.
3. From the toolbar, select **New**.
4. In the **Properties** window, complete the following fields on the **General** tab:
 - **Name:** Enter the stack plan name.
 - **Description:** (Optional) Enter a description.
 - **Include:** Indicate whether you want all levels included in the stack plan (**All levels**), or indicate whether you only want to include levels that have a specific status (**Levels with statuses**).
5. Select the **Options** tab, and complete the following fields:
 - **Space Types:** Select a space type.
 - **Stack By:** Indicate whether to stack by a selected **Space Type** or by a selected **Data Element**.
 - **Stacking View:** Select to specify standard stacking or 100% stacking.
 - **Sort Floors By:** Select to sort floors by a selected data element from the Level Attribute Form.
 - **Show Legend:** Select this option to display a legend for the stack chart.
 - **Conditions:** Add a condition to filter the number of space records included in the stack plan calculation. The stack plan calculation logic sums up the values from the `uuu_area` data element used on the space-type detail form.
6. Select **Apply** to save changes, or **OK** to save and exit.

Viewing a Stack Plan

To view a stack plan:

1. Go to the shell tab, and switch to **User** mode
2. In the left Navigator, select **Space Manager**, and then select **Stack Plans**.
3. In the **Stack Plans** log, double-click the applicable plan to open it.
If your stack plan contains no data, you will see a gray box. Your stack plan must contain data to display. You can scroll up and down the stack plan if there are numerous records listed.

Modifying the Display Mode for a Stack Plan

You can change the display mode of the Stack Plans to display a standard view (Stack Plans - Current View) or display the bars in the graph as proportional percentages of varying length.

To change the display mode for a stack plan:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Stack Plans**.
3. In the **Stack Plans** log, double-click the applicable plan to open it.
4. To change the view, select **Explicit Value** or **Percent**.

Printing a Stack Plan

To print a stack plan:

1. Go to the shell tab, and switch to **User** mode
2. In the left Navigator, select **Space Manager**, and then select **Stack Plans**.
3. In the **Stack Plans** log, double-click the applicable plan to open it.
4. From the toolbar, select **Print** .
The displayed area is printed.
5. To print more of the records, scroll down the stack plan, and select **Print** again.

Printing a Level or Space Record

When printing the level or space records, you can choose PDF, HTML, or Custom print formats, and select one of the following options:

- Save a copy of the form as a PDF file and print the file
- Print an HTML view
- Print from a Microsoft Word file if a custom print layout has been created for the form

The Custom Print formats include the Oracle Analytics Server custom print templates designed in the **Custom Templates** node. If custom print layouts have been created for the Space Manager, the form prints according to the layout that you select. For more information, see [Printing Options - Custom Format](#).

To preview and print a log or record:

1. Open the record that you want to print.
2. Select **More Actions**, select **Print**, and choose one of the following:
 - **HTML** to view the form in the browser, which can then be printed.
 - **PDF** to open the form in Adobe Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
 - **Custom** to select the Oracle Analytics Server, Microsoft Word, and PDF custom print templates from the same place as the current custom prints. For more information, see [Printing Options - Custom Format](#).

The **Print Options** window opens. This window displays the record information that can be printed.

3. Select the check boxes for the information that you want to print.
 - To select all the checkboxes, select **Show All**.
 - To clear all, select **Show All** again. If you deselect all checkboxes, only the header and footer will print.
4. Select **Print**.
The preview form opens in an HTML or PDF (Adobe Acrobat or Reader) window, from which you can print.
5. If you chose PDF, select **Print**, or select **Save a Copy** if you want to save a copy.
6. To print from HTML format, select **Print** in the upper-right corner.

Print Options for Level and Space Records

Following is a summary of the print options for a level or space record.

Print option	What it prints
Detail Form	This prints the information entered on the record. Depreciation details in the line items are not printed.
Line Item List	Selected by default. This prints the information present on the tabs displayed on the Space.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name, and include the file title, issue date, revision number, and file size.
Record Attachments followed by Comments	Prints comments associated with file attachments to the record. "Record Attachments" must also be selected to select this option.

Printing Options - Custom Format

The Custom Format Print window has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates, including the custom print templates created in the **Custom Templates** node and the custom print templates. For example, the list may include Oracle Analytics Server custom print templates, Word, and PDF custom print templates.

If there are multiple custom print templates, all the published templates are listed in this section.

The "Select a template and format to print" section is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select an Oracle Analytics Server custom print, you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, "Select a template and format to print" is disabled.

Default template and format

- If an Oracle Analytics Server print template is selected, the default values in the drop-down lists are set based on the default in the custom print template.
- When an Oracle Analytics Server print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Exporting and Importing CSV and Excel Level or Space Templates and Records

You can use CSV and Microsoft Excel files to create level or space records and to import drawing files. After you have edited and saved the exported file, you can import it back into Unifier. During the import process, the system validates the data. If the data passes validation, the new records are created. If the data fails the validation, you can view or download a text file summarizing the errors.

To export a template file:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels** or **[space type]**.
3. From the toolbar, select **Actions**, and then select **Export CSV Template** or **Export Microsoft Excel Template**.
The exported template is based on the Integration interface design of Level or Space that was created in uDesigner.
4. Save the exported file to your desktop.

To modify an exported template file:

1. Open the file in Microsoft Excel or a compatible software application.
2. Add data to the file, one record per row.
3. Save the file.

Note

Excel 2003 cannot handle CSV files with 15 or more rows. In CSV files, columns are separated with commas. With Excel, when you open a CSV file that has empty columns at the end of the file, Excel drops the additional commas from the 15th row onward, resulting in an error when you try to import the file. To work around this problem, do one of the following:

- Add your data to the CSV file in Excel, and save the file. Then reopen the file in a text editor such as Notepad, find the rows that have the missing commas, and add the additional commas to these rows.
- Use a text editor instead of Excel to modify column values in the CSV file.

To import an updated template file:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select **Levels** or **[space type]**.
3. From the toolbar, select **Actions**, and then select **Import**.
4. Locate and select the file.
The system checks the file for the following items to make sure that valid records are created:
 - The file format of the imported file matches the interface design created in uDesigner.
 - You are importing into the same log from which you exported the CSV template file.
 - The required fields contain data in the correct format.

If an error occurs, a confirmation message gives you the option to save a file that lists the errors.

To view the import validation error file:

1. When the **Confirmation** message appears, select **Yes**.
2. Select **Open** to open the file, or select **Save** to save the file to your local machine.
The error file is a CSV file.
3. To view the full contents of the listed error, select a cell.
4. After fixing the errors, use this file to re-import the records.

Creating and Managing Log Views in the Space Manager

In addition to opening and viewing the various sheets and records used in the Space Manager, you can use the **View** list to customize a log to display information based your filter criteria.

The Levels Sheet includes one predefined view: **Default**

The logs for the level and space records include two predefined views: **All Records** and **Records Created by Me**

To create a view:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select the applicable Levels Sheet, level, or space.

3. From the toolbar, select **View**, and select **Create New View**.
4. On the **New View** page, enter a name for your new view under the field **Save View As**.
5. In the **Columns** tab, select columns that you want to display.
6. Select the columns that you want to remain static on the page from: **Lock after selected Column** drop-down list.
In addition to arranging the columns, you can go to the **Filters**, **Group By**, and **Sort By** tabs to customize the new view by applying more refined selections.
7. Select **Save**.
Your new view appears in **View** list.

To manage views:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select the applicable Levels Sheet, level, or space.
3. From the toolbar, select **View**, and select **Manage Views**.
4. Use the **Manage Views** window to delete or hide views within any log.
In addition, you can reorder views by dragging and dropping them in the **Manage Views** window.
5. When finished, select **Apply**.
Your arrangement appears in the **View** list.

To edit or delete an existing view:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select the applicable Levels Sheet, level, or space.
3. From the toolbar, select **Edit View** .

Note

If you modify the view and do not save the changes, the system keeps the existing name and adds the word "Modify" to the existing name.

You can edit the view of the following elements on your log:

- Columns
 - Filters
 - Group By
 - Sort By
4. When finished, select **Apply**.

Using Bulk Edit to Update Level or Space Records

If you have many records that need the same changes, you can use Bulk Edit to update all the records at once. You can update up to 200 records at a time. Bulk editing must be defined in uDesigner, and you must have the Allow Bulk Edit permission set for the manager.

To edit multiple records in bulk:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Space Manager**, and then select the applicable level or space.
3. In the corresponding log, use **Ctrl+click** to select the records that you want to edit.
4. From the toolbar, select **Actions**, and select **Bulk Edit**.
5. Use the left pane of the **Bulk Edit** window to edit the details of each record.
The system automatically selects the corresponding checkbox when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
6. To preview the status of each record, use the **Action Status** pane on the right.
7. When you are ready, select **Update**.
8. When finished, select **Close**.

For more information on editing records in bulk, refer to the *Unifier Business Processes User Guide*.

4

Working with Business Processes

The following explains how to work with Unifier business processes.

Within the documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

The following BPs are *not* currently supported for use with Unifier Mobile App:

- Lease
- Line Item with CBS and WBS Codes
- Payment Application
- Project/Shell Creation
- Request for Bid (RFB)
- Reservation
- Resource Booking
- Timesheet

Note

The instructions and information presented in the documentation are based on an out-of-the-box (OOTB) setup and before being customized by the user.

Using Artificial Intelligence (AI) Features

Variability of Summaries Generated by AI

Because of how AI large language models (LLMs) function, the summaries generated might vary, even when you generate summaries using the same input data and output options. The AI model makes billions of probabilistic choices when generating text, similar to how a human might rephrase the same idea between different conversations. This approach is by design, with the intention of making the summaries feel natural and dynamic, rather than repetitive and stale. While the wording, ordering, and formatting might vary between summaries, Oracle expects that the core information and accuracy is correct.

Translation of International Data Generated by AI

When the data submitted for summarization is in a language other than English, the model first performs a translation to derive meaning. It then generates the summary in English, leveraging its capability for natural language generation (NLG). This approach provides cohesive summaries of the information, regardless of language.

However, it is important that you are aware of the inherent limitations of machine translation, particularly when it involves technical or domain-specific information. The AI feature relies on patterns learned from vast datasets, but it can occasionally struggle with highly specialized terminology, jargon, or cultural nuances that are not well-represented in its training data. This can lead to inaccuracies or a loss of precise meaning. For this reason, Oracle does not

guarantee the accuracy of the summaries when the original data contains languages other than English.

Best Practices for Working with Business Processes

To assist you with producing results that are superior to those achieved by other means, Oracle recommends the following methods as the most effective.

Auto-creation Conditions

If you are using a condition-based auto-creation process, ensure that you allow enough time (depending on the number of running background jobs) for routing of the workflow.

When designing business processes (BPs), especially when you are designing the relationship between the BPs, note that there can be only one auto-creation job per record.

When the workflow advances, the system schedules an auto-creation job and executes it with high priority. If the workflow advances again before the auto-creation job is executed, the application will not schedule a new auto-creation job.

Note

- The manual auto-creation is transactional. The condition-based auto-creation is not transactional.
- If the option **Do not evaluate condition based autocreation** is selected for the workflow, the BP creator's conditions will not be evaluated irrespective of the conditions added in the auto-creation setup. This helps to reduce processing time when there are no BP creators on that step.

Because of the general way that processes are organized and relate to each other, when you create a job, several factors come to play to determine the job processing time.

Regardless of the job prioritization (high priority or low priority), the system will hold, or delay, processing the succeeding job when a record is being updated concurrently (for example, through web service, RAP, or manual updates), until the current job, or auto-creation, is complete. In other words, if a record is updated manually and the record auto-creation is in progress, the next request that is submitted by way of "UpdateRecord" will not trigger an auto-creation procedure because the previous job must finish first.

Example:

When a workflow advances from step 2 to step 3, the auto-creation initiates and is in progress. When the workflow advances from step 3 to step 4, if the system detects that the first job was not completed, the system will prevent the second job from completing (auto-creation will not take place for the subsequent job).

Additional Information about Auto-creation Conditions

- Only manual auto-creation is form based.
- The auto-creation process does not depend on a BP form.
- Reverse Auto-population (RAP) process begins when the workflow advances. RAP uses the auto-creation process and does not rely on a BP form.

- When a line item is auto-created (by using the line item auto-creation logic), the values in the fields on the line item that are based on a data picker in that line item will not be auto-populated.

Business Processes

Transactions and collaboration are driven by business processes (BPs). Information is entered and stored using electronic Business Process (BP) forms. Each time you fill out a BP form, you are creating a new record. These forms may be routed to project/shell team members or other users by way of workflows. The information that you enter into BP form fields may be used throughout the system. Each field corresponds to a Data Element (DE) that can be identified, reported upon, and tracked; some data element values may be rolled up to sheets such as a cost sheet or resource sheet.

The look and feel of a field (Data Element) is determined by the Data Definition (DD) on which the Data Element is based. The Data Definition determines whether the field is a text-entry field, a drop-down list of options, a checkbox that you can select, a picker that is used to select an existing record, and so forth.

The BPs can be associated with a specific project/shell (Project/Shell-level BP), or they can be applicable for the entire Company (company-level BP) and not to be specific to a Project/Shell. The Administrator (Project/Shell or Company) determines which forms are to be used and how the workflows operate.

In the Upper Form or Detail form of any BP, for a field with DD set as Integer data type with input-type pull-down menu (option value for DE of type Integer), the field (and the field label) will be displayed in the BP record:

1. If you do not select a value for the field (space), and
2. If the Administrator has set the value of zero for that DD set (Integer data type with input-type pull-down menu).

Note

The above conditions apply to Attribute Forms and Reports.

Additional information about Unifier business processes

- BP records are stored in logs, which are accessible in the left Navigator. You can think of these logs as filing cabinets, with each drawer storing a different type of BP. Single-Record BPs are excluded from the **Logs** list in the left Navigator for projects/shells. However, they are included in the **General** section listed under **Information** in the left Navigator. Your company administrator can also configure the **User Mode Navigator** to list Single-Record BPs under the **Home**  tab.
- The non-workflow business processes will simply be stored as records.
- Business Process forms are designed in uDesigner.

For information about internationalization and CSV files, see Internationalization and CSV Files.

Workflow and Non-workflow BPs

Business processes (BPs) can be designed with or without workflows. A workflow specifies how a business process should proceed, from start to finish. Workflows define how records are routed and govern the behavior of each step in the business process. Each step uses the forms that were designed for it in uDesigner.

Most business processes will include a workflow or workflows; however, some business processes have a single purpose of storing data. These business processes are called non-workflow BPs. An example of a non-workflow BP is a form that records a Warranty or Estimate. The log for a non-workflow BP includes an **Edit Record** column that indicates whether the record is in an editable state by displaying an **Edit Record** icon . If the record has a status such as submitted, terminal, or initiated, no icon is displayed. A user can use the **Create New View** option and the **Show Edit Records** parameter to filter the log to display only those records that are in an editable state. For more information on setting up filtering, see [Business Processes in Company Logs and Logs Nodes](#).

After a workflow BP record is created by using any workflow schema (unique combination of Setup Name + Workflow Name), the workflow record continues to reference the workflow schema even if the status of the workflow schema has been set to **Inactive**.

This condition includes workflow records that are in the following statuses:

- Draft
- Initiation Step (I-Step)
- Also, this condition includes any workflow record at any other step in the workflow.

If there is an Active BP Template, the template continues to create records referencing the **Inactive** workflow schema. For instructions on creating a template, see [Creating BP Templates and Scheduling BP Creation](#).

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

About Workflows

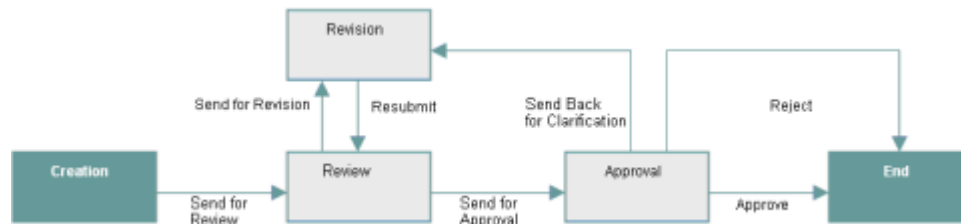
The Unifier workflow engine routes a business process form through your company's business protocols.

When you participate in a business process workflow, you are taking action on the form. For example:

- Reviewing and approving an invoice
- Responding to a request for information.

Depending upon the workflow setup, you may choose the next recipient of the business process in the workflow, or this may be automatically selected for you. When you send the

business process to the next step, it proceeds along the workflow and records each action taken at each step.



In the above example, the workflow proceeds as follows:

1. **Creation:** The form is created and filled out and sent for review.
2. **Review:** During the review, a reviewer has the following options:
 - Return the form for revision (step 3)
 - Send it forward for approval (step 4)
3. **Revision:** Upon review, if the form is returned to incorporate suggested changes, you will have to resubmit it for review.
4. **Approval:** In this step of the workflow, an approver can:
 - Return the form for further clarification or revisions
 - Reject the form or
 - Approve the form

A rejection or approval status essentially ends the workflow. When a business process is approved or rejected, it is considered to be in a "Terminal" status, and this status cannot be changed. However, you can add comments and certain edits to the record.

5. **End:** After a business process reaches a terminal status, it proceeds to the End step.

Note

A "terminal" status differs from a "terminated" status. A business process is at a terminal status when it reaches the final step in the workflow. A business process with a terminated status was stopped at some point before it reached the final step in the process.

Using Business Processes with Oracle Integration

You can use one or more integrations from Oracle Integration in workflow and non-workflow business processes (BPs).

Prerequisites

- Ensure that you have the necessary integration permissions.
- The business process is set up with one or more integrations from Oracle Integration which will be invoked based on the status of the business process record.
- Go to the **Company Workspace** tab, and switch to **Admin** mode. In the left Navigator, select **Integrations**, and then select **Oracle Integration Cloud**. On the **Connect** tab, ensure that **Enable Integration** is set to **Yes**.

Procedure

To use integrations from Oracle Integration in business processes (BPs):

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select a non-workflow or workflow BP.
3. In the **Business Processes log**, select a BP record in the right pane, and click **Open**.
For non-workflow BPs, proceed to next step.
For workflow BPs, proceed to step 5.
4. For non-workflow BPs:
 - a. Enter information in the BP record and click **Submit**.
 - b. Edit the record as necessary, update the **Status** field of the business process, and click **Submit**.
 - c. Depending on the BP setup, if the **Status** is associated with an Oracle Integration endpoint, a call is made to Oracle Integration.
 - d. Review the job status in the BP log of the non-workflow record.
For information captured in **Integration Log** tab, see [Business Processes in Company Logs and Logs Nodes](#).
5. For workflow BPs:
 - a. Enter information in the BP record and click **Send**.
 - b. In the **Workflow Action Details** form, select the next action in a workflow step and click **Send**.
 - c. Depending on the workflow setup for this BP, the relevant Oracle Integration endpoint, if applicable, is invoked for the selected action.
 - d. Review the workflow status in the BP log of the record.
For information captured in **Integration Log** tab, see [Business Processes in Company Logs and Logs Nodes](#).

Note

If you have access to the **Company Workspace**, in the left Navigator, select **System Information**, and then select **OIC Integration Log** to view details of the integration job associated with the BP.

Business Process Types

Different business needs require different types of business processes (BPs). In uDesigner, many types of business processes are available that perform various functions within Unifier.

BP forms can be of the following types:

- **Cost**
- **Document**
- **Line Item**
- **Project/Shell Creation**

- **Request for Bid (RFB)**
- **Resource**
- **Simple**
- **Text**

The following explains each type.

Cost Type BP

The Cost type business process form enables you to track and manage cost information and interact with the Project/Shell cost sheet. Examples include base contracts or purchase orders, change orders, budget change requests, invoices, fund appropriations, and leases.

Note

With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.

Additional cost-related functionality includes schedule of values (SOV) and payment applications.

In any change order (including change orders with Unit Cost-type Contract when the Unit Cost Contract option is selected), when you select a reference SOV, for selecting an SOV line item, the system uses the value of the Item Unit Cost field from the referenced SOV and makes the field read-only.

Cost type Business Process Form Sub-types

The Cost type BP form has several sub-types that are used to perform specific cost-type functions. The cost business process sub-types are:

- **Commit at company level** (also known as **Blanket Purchase Order [BPO]**)
This sub-type allows tracking and control of costs at the company level above the CBS level.

It is independent of a budget or cost sheet, and it is used for tracking non-CBS expenses across projects/shells.

Project/Shell level *Commit at company level sub-type* can be set up to reference a company commit.

Example of Blanket Purchase Order

A Blanket Purchase Order is a type of purchase order that the customer makes with its supplier. A Blanket Purchase Order contains multiple delivery dates over a period of time (often negotiated) to take advantage of predetermined pricing. It is usually used when there is a recurring need for expendable goods.

- **Line items with CBS code**
This sub-type relates directly to the Project/Shell cost sheet.

The business processes that use a CBS picker to reference CBS codes must use the *Line items with CBS code* sub-type.

These business process transactions can directly affect the budget. Examples include Base Commits, Change Commits, General Spends, and Payment Applications.

- **Line items with fund code**
This sub-type is used for fund appropriation at the Project/Shell level.

Business processes can be created to automatically allocate or consume funding source funds, which are chosen using a Fund picker. These transactions are for fund management and do not necessarily affect the budget. Transactions on *Line items with fund code* sub-type roll up to the **Fund Manager**.
- **Line items with both CBS and fund code**
This sub-type is used during fund appropriation at the CBS level. These transactions are for fund management and do not necessarily affect the budget. Transactions on *Line items with both CBS and fund code* sub-type roll up to the **Fund Manager** and **Cost Manager**.
- **Line Items with Both CBS and WBS Codes**
This sub-type is used to roll up transaction data to the **EVM-WBS Sheet** and **Cost Manager**.
- **Line items with company accounts code**
This is a company-level business process that can be used to roll up transaction data to the company accounts sheet.
- **Line items with multiple codes**
This sub-type is for business processes that can be used with a generic (non-CBS) cost manager.

Cost-type BP Form and Picker Values

The picker field is used for selecting CBS codes, and the picker can be found on:

- Cost-type BPs
- Shell or project
- Shell cost sheets
- Schedule activity forms
- Company-level and Shell-level business processes in form view and grid view when records and line items are created or updated

The following information applies to the following pickers:

- CBS Picker
- CM0 Picker
- CMx Picker
- Funding Picker

When you create or update a BP record:

- The picker field enables you to select only relevant codes or data.
- You can search for a code in picker, in the **Line Item Details** tab of your BP record **Line Items** tab. This is so you can see a list of codes from the filtered list that matches your search criteria.
- By defining the query condition on pickers in BP Configuration, you can narrow down the list of codes in picker, in the **Line Item Details** tab of your BP record Line Items tab. This is so you can see a list of codes from the filtered list that matches your defined query conditions.
- The picker has an auto-completion feature. If you know the code, begin typing in the picker DE field, and the picker will show the top 10 matches. If you continue to type, the picker will narrow the list as it matches more of the characters you type.

You can also auto-create a BP record with the picker value that matches a previously-defined query condition, at the source BP. This so you can automatically create records or line items by ignoring the filter conditions that are set for the destination BP. The query condition is defined in the BP Configuration.

For flat-structured cost sheet, the filters are applied to all nodes, and for the tree-structured cost sheet the filters are applied to the leaf nodes, and the summaries are displayed based on the rollups.

Note

Auto-population and Reverse Auto-population processes will work in same way if the query conditions are defined in the picker.

When you create a new BP record by way of a CSV or Excel file import, or when you add a new line item through the line-item CSV or Excel file import, the system will use the defined query conditions in the picker. For BP record level import, if the CBS code does not match the query conditions, the validation happens during the record creation process, and the system sends an email to the user that it has failed. For line item level import, the system displays a message and shows the error in the CSV.

You cannot create a BP record if the picker DE is a required field, and the data that you have entered does not match the available defined query conditions in the picker.

When you create a new BP record with line item by way of REST V1 and V2 web services, or when you add a new line item through the REST V1 and V2 web services, the system will use the defined query conditions in the picker. If the CBS code provided in the RESTful web services does not match the query conditions, the record or line item creation will fail with an error.

Document Type BP

The Document type business process form can be used as an "envelope" to package a set of files, such as spreadsheets, drawings, and design documentation that flow from one group to another.

The **Advanced** functionality allows documents to be attached to the form as line items, with line item status control. This allows the ability to change the status (for example, approve or reject) for each attached document. Examples are submittals and transmittals.

The following are the sub-types of Document type business process form:

- **With folder structure**
Both documents and folders can be uploaded to the business process. The folder navigator in the lower left of the form displays the folder structure.
- **Without folder structure**
The folder structure will be ignored, and documents are attached in a flat list. The contents of selected folders and sub-folders are attached.

Line Item Type BP

The Line Item type business process form can:

- Lend itself well to business processes that involve miscellaneous information that you want to document for a company or project, for example, a vendor contact list.
- Be useful for project-specific information that only needs to be documented on a single form, such as the overall project scope, or meeting minutes.

The Line Item type business process form is also useful for collecting data that other (more restricted) types of business processes cannot collect. For example, while a Simple type business process form can be used to collect basic vendor information, a company-level Line Item type business process form can collect additional vendor information, such as multiple business addresses.

At the project level, you can use a Line Item type business process form to filter large numbers of company records into smaller lists of records that are more appropriate for a specific project.

The Line Item type business process form uses a separate detail form to enter line items, which then appear on a line item list at the bottom of the form.

For short line items, users can enter information directly into the line item list using a "grid view" of the list.

You can design the Line Item type business process form to accommodate line item status, so you can control modifications to individual line items based on their status.

The following are the sub-types of the Line Item type business process form:

- **Generic**
Use the *Generic* sub-type for all Line Item type business process forms unless you want to filter the business process records.
To filter BP records, use the sub-type explained below.
- **Line items to filter business process records**
Use the *Line items to filter business process records* sub-type to filter company records into smaller lists of records for your projects.

This sub-type is particularly suited for selecting specific vendors from a company's master vendor list (vendor master list) to create a subset of the master list that contains vendors who are appropriate for a particular project.

Used for this purpose, this sub-type can be linked (as a reference process) to an RFB to supply a project-specific vendor list for bid invitations.

The system allows your company to only designate one "Vendors" business process as the RFB master vendor list.
- **Preventive Maintenance** (If the module is available)
Use the Preventive Maintenance sub-type to maintain assets proactively and on a regular basis, even when no issue has been reported on the asset.

The Preventive sub-type has the following classifications:
 - Asset
 - Asset Template
 - PM Book (Preventive Maintenance Book)
 - PM Book Template
 - Meter Reading
These classifications are available for selection from the **Classification** drop-down list, after you select Preventive Maintenance.

Note

A Company can have more than one business of a particular sub-type, for example, two or more Asset BPs, two or more Asset Template BPs, and so forth).

Preventive Maintenance BP

Preventive Maintenance Business Process toolbar options:

- **Form View (default view)**
- **Grid View**
- **Add**
- **Actions**
 - **Import**
 - **Consolidate Line Items**
- **Reload**
- **Print**
 - **Print**
 - **Export To CSV**
 - **Export To Excel**
- **Search**
- **Find on Page**

You can select the *gear menu* () to the left of each row in the grid or **right-click** rows to see the following options:

- Copy
- Remove
- Group line items

Additionally, you can select multiple rows and **right-click** to see the following options:

- Add line item below
- Copy
- Paste below
- Remove
- Group line items

Adding and Modifying Line Items

To add a line item to the grid, select **Add**. A blank row will be inserted and the following toolbar options will be visible:

- **Create**

To add a new line item.

- **Search**

- **Find on Page**

Note

Any fields that have default values will display them.

After a line item is created, you can double-click the cell to modify its content (if the form properties permit modifications).

Error Reporting

If any rows have an error, the red **Error** icon appears in the first column. You can select the **Error** icon to see an error message. Columns with required fields display red triangles in the upper-right corner.

Hyperlink Fields and Image Fields

When you double-click a hyperlink field, the **Hyperlink** icon appears in the cell. When you select the **Hyperlink** icon, a box appears. Here, you can enter the **Name** and **URL** that appear in the cell.

When you double-click an image field, the **Upload** icon appears in the cell. Selecting **Upload** gives you the options of **Browse** and **Document Manager**. When you select **Browse**, the File browser will open. When you select **Document Manager**, the image field from Document Manager will appear.

Project/Shell Creation Type BP

The Project/Shell Creation type business process form enables you to create projects/shells from the upper form of the business process or from line items.

The data necessary to create projects/shells is provided by this business process.

In addition to creating a new shell, this type of business process form can also be designed so that you can choose the managers and employees who should be automatically assigned to the shell when it is created.

This type of business process form enables you to create projects/shells using the designed templates. You can use the Record Properties tab to define restrictions on who can view specific tabs, such as, Linked Mail, Attachments, Reference Records, and so on. The system copies the restrictions defined on the Record Properties tab of the Business Process setup from the selected shell template to the new project.

Project/Shell Creation type business process form can also work with the **Planning Manager** by automatically linking new projects/shells with planning items. That is, instead of linking a planning item to a project in the **Planning Manager**, the Project/Shell Creation type business process form can be designed to automatically create the link (when the project/shell is created) and roll up data to the **Planning Sheet** from the business processes in that project/shell.

If integration was defined in the business process, the system can export/import a CSV template for the Simple type business process form.

Request for Bid (RFB) Type BP

The Request for Bid (RFB) type business process form allows companies to invite project/shell-related bids from different vendors.

- There is a business process form for requestors.
User requesting the bids.
- There is a business process form for bidders.
Bidders do not need to be existing users and are provided with a simple interface that does not require special training to use.

See [Request for Bid \(RFB\) Business Processes](#).

Resource Type BP

If you have access to the Resource Manager feature, which was deprecated starting with version 23.10, the Resource type business process form works with the **Resource Manager**.

There are two subtypes of the Resource type business process form:

- **Resource booking**
This is a project-level business process.

In the upper form, you pick a date range to book resources.

The line item list displays a summary of booking rows.

You can create one resource booking BP per project.
- **Timesheet**
The timesheet business process can be designed to roll up hours and costs from the timesheet to cost sheets.

There is one per company, but there can be multiple schemas.

Simple Type BP

The Simple type business process form consists of an upper form only (like a line-item-type BP without the line items). It is used to add company or project/shell information that does not require line items.

The Simple type business process form can be a:

- Company-level, non-workflow, single record.
- Company-level, non-workflow, multi record.
- Project-level, non-workflow or workflow, multi record.
- Shell-level, non-workflow or workflow, multi record.

An example of the Simple type business process form is a project information form to capture basic reference information.

Text Type BP

The content of the Text type business process form is typically a text comment in the lower portion of the form.

Examples of text type BPs include:

- RFIs (Request for Information).

- Action items, which track issue resolution.

You can view responses from other users who may have acted on the record at a given step while working on the record.

Note

The functions of the options presented below have been explained in the preceding sections. This section explains new functions and procedural differences.

A Text-type BP has the following tabs:

- Upper Forms (main form)
- Text Entry Form
- Response List form

In edit mode, you can see the:

- Upper Forms (main form) tab name: **General**
- Text Entry Form tab name: **Collaboration**

When you select the **Collaboration** tab, you can enter the response in the input box.

When you are viewing the form, the application displays the **General** tab and the **Response** tab. You can filter the responses, based on user, by selecting the **Posted By** drop-down list. Each of the responses received will be placed in a separate block, and no actions are permitted on these blocks.

When you want to update a record, the following tabs are displayed:

- Upper Forms (main form): **General**
- Text Entry Form: **Collaboration**
- Response List form: **Response**

Note

In edit mode, the Response List form: **Response** looks the same as the one seen in view mode.

Business Process Step Editor

The **Step Editor** designation allows someone other than the assignee to edit the business process record. Step Editors can be added to the following workflow, or non-workflow, business process types:

- Line Item
- Cost (all types, including Lease and Line Item with Multiple Codes)
- Document
- Simple
- RFB

- Text

If you are designated as a **Step Editor** on a business process, it means that you are a user, or member of a group, who can open and edit a business process record without being granted explicit record-level permission.

If you are a **Step Editor** on a business process, you can open and edit any record that you can see listed in the business processes log, per your view access permission (View User Records, View Company Records, or View All Records).

 Note

You must have at least one of the above permissions to be able to view the record in the log to access it to edit.

The Step Editors *cannot* edit a Workflow Business Process record until the task assignee accepts the task and saves the draft.

Edits performed by Step Editors are not audited.

Edits performed on the end step of a Workflow Business Process affect the record directly because no draft exists.

If there are multiple Step Editors, the last **Step Editor**, who saves changes/edits, overwrites all other changes/edits.

If multiple Step Editors and the assignee are editing the business process record at the same time, the data saved by the last edit overwrites all previous edits.

Example

If User 1 changes an amount field from 15,000 to 23,000 and saves the change, and User 2 changes an address field, but does not change the amount field on her copy of the form, when User 2 saves her change, the system will commit User 2's edits and overwrite User 1's changes. In this scenario, the amount field value will be 15,000.

For information about responding to your tasks, see [Working with Tasks](#) and [Completing Tasks via Email](#).

Business Process Dates and Calendars

The system supports multiple calendars, enabling the Administrator to create a library of calendars that can be selected for use at the Company or project/shell levels. The multiple calendars let you have calendars to support varying work schedules (depending on locality) and to account for holidays and other non-working days. For example, some countries in the Middle East have weekends that are other than Saturday and Sunday.

Calendars affect the calculation of both business process workflow due dates and task due dates, and formula calculations. When the calendar changes for the Company, or for the project/shell, any subsequent computation of dates will use the new or changed calendar. Dates are not affected for records that are in process. The Date Picker and the Date Only Picker will show the changed calendar.

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

- When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

Working with Quick Calendar Entry

The Quick Calendar is available in the following business process types that were designed to be "calendar-enabled."

- Document
- Line Item or Simple

The Quick Calendar is available for **Space Manager**.

Note

The functions of the options presented below have been explained in the preceding sections (Reservation Business Process). This section explains new functions and procedural differences.

The following scenarios describe the details when you select **Calendar**.

Viewing a Calendar in View only mode from log for Month: Viewing details of an existing event

The default view of the Calendar is set to Month.

When you hover over a date, on which an event or reservation has been created, the tooltip (Details) displays all event details such as:

- Name (Event)
- From (time)
- To (time)
- Status
- Creator

When selecting the Event, a Detail overlay is displayed with Name (time), From (time), To (Date), Status, and Creator.

The Tentative events are marked with a gray bullet, and the Confirmed events are marked with a green bullet.

Create event in month view

When you select a date, for which an event has not created, an overlay is displayed. In the Details overlay, you can enter values for:

- Name (Event)
- From (time)
- To (time)
- Status

 Note

You must have permission to make Quick Calendar entries.

When you select the calendar symbol (next to From and To fields), the calendar opens and you can pick a date.

The Creator field is auto-populated with the name of the signed-in user.

When you select Done, the event details are saved, the overlay screen closes, and the saved event is displayed on the Calendar.

When you select Cancel, the event details will not be saved and the overlay screen closes.

Edit event in month view

When you double-click a date cell, for an existing event, the Details overlay screen is displayed.

Select Delete to remove the event.

Select Edit to open an overlay screen and edit the event details.

Viewing a calendar in View only mode from log for Week (Viewing details of an existing event)

Upon hovering over a date, on which an event/reservation has been created, the date will be highlighted by encircling it in Red color.

When you hover over an Event, the date of the event is highlighted by encircling it in Red color.

A tooltip, Details, opens and displays the event details such as:

- Name (Event)
- From (time)
- To (time)
- Status
- Creator

The Tentative events are highlighted in gray, and the Confirmed events are highlighted in green.

Create event in week view

When you select a date, for which an event has not created, an overlay is displayed. In the Details overlay, you can enter values for:

- Name (Event)
- From (time)

- To (time)
- Status

Note

You must have permission to make Quick Calendar entries.

When you select the calendar symbol (next to the From and To fields), the calendar opens and enables you to pick a date.

The Creator field is auto-populated with the name of the user who has signed in.

The To and From fields are auto-populated based on the time displayed.

When you select Done, the event details will be saved, and the saved event is displayed on the calendar.

When you select Cancel, the event details will not be saved.

Edit event in Week view

When you double-click a date cell, for an existing event, the Details overlay screen is displayed.

Select Delete to remove the event.

Select Edit to open an overlay screen and edit the event details.

View mode for Day view

The events displayed for the day are marked with green highlight, in case the event is confirmed.

The events displayed for the day are marked with grey highlight, in case the event is tentative.

As a result, when you select an event, if the event status is confirmed, the event is marked with green highlight, and if the event status is tentative, the event is marked with grey highlight.

The event details for both cases above are displayed.

Create event in day view

When you select a time cell in Day view, an overlay is displayed. In the Details overlay, you can enter values for:

- Name (Event)
- From (time)
- To (time)
- Status

Note

You must have permission to make Quick Calendar entries.

When you select the calendar symbol (next to the From and To fields), the calendar opens and enables you to pick a date.

The Creator field is auto-populated with the name of the user who has signed in.

The To and From fields are auto-populated based on the time displayed.

When you select Done, the event details will be saved, and the saved event is displayed on the calendar.

When you select Cancel, the event details will not be saved.

Edit event in Day view

When you double-click an event, for an existing event, the Details overlay screen is displayed.

Select Delete to remove the event.

Select Edit to open an overlay screen and edit the event details.

Other Calendar Features

Note

Other events, scheduled within the extended events, are displayed accordingly.

Display of Mini-Calendar

A mini-calendar is displayed besides the Quick Entry Calendar, to enable you to go through years and months irrespective of the selected view.

Display of Upcoming Events

A mini-calendar is displayed besides the Quick Entry Calendar, to enable you to go through years and months irrespective of the selected view. A list of 10 future upcoming events are displayed on calendar. For the current day, according to the current time, the future events are displayed.

Example

If the event "Lunch Meeting" is scheduled for 2:00 PM to 3:00 PM, today, and the current time is 3:30 PM, the "Lunch Meeting" even is not displayed in the upcoming event list.

Business Process Forms

The forms are consistent throughout the system, with a similar look and feel. When you send a workflow business process form to the next step, the assignee receives a task.

When you first open a task, it appears in "view" mode. Depending on your BP setup, the "view" version of this form might let you:

- Accept the task
- Decline the task
- Print the form
- Terminate the record
- Send Mailbox
- Transfer ownership of the record

- Add an assignee to the current step
- Copy users to the current step
- Audit the progress of the record
- Add a comment, if you have permission

If you accept the task, the form becomes editable. Depending on your BP setup, the editable, or "action," version of this form might let you:

- Undo task acceptance, which allows someone else to accept the task.
- Decline the task, which takes you out of the list of assignees.
- Select the step's next action.
- Add or edit form content
- Save a draft of the record
- Terminate the record
- Transfer ownership of the record
- Display the view form of the business process
- Audit the progress of the record
- Add attachments, line items, and so on
- Send the form to the next step

The form appears similar to a paper form—you complete the form by typing information directly into the form fields or choosing options through drop-down lists, pickers, or checkboxes.

 Note

The section labels are determined by the design and may vary. The basic form functionality remains the same.

Parts of the Form

In general, most workflow business process (BP) forms consist of three major sections:

- Upper form
- Action (or Task) Details
Non-workflow BPs do not have an Action Details section.
- Line Item Details, unless otherwise noted.

You can minimize and later expand a BP form. For example, you might want to minimize the General and workflow portions of the form to avoid scrolling through many line items.

Toolbar: The workflow BP form has a toolbar at the top of the form. This allows you to access all parts of the BP form, such as the Upper form and Line Item Details, and has the following buttons in the upper-right corner:

- **Send**
- **Save Draft**

- **More Actions:** The options in this menu may vary per BP, but each workflow BP has the following options:
 - **Print**
 - * **HTML**
 - * **PDF**
 - * **Custom**
 - **Reload**
 - **Review**
 - **Help**
 - * **(Business process name) Help**
 - * **User Productivity Kit**
 - **Close**

After you are done working on the BP form, select **Send** to route the workflow BP to the specified recipients. You can select **Save** to save a draft of the form, so you can work on it again. When you have completed work on the business form, select **Close**.

Note

The Close action does **not** save the information on the form. To save the information, you must select **Save** before you close the form.

Additional Elements of the Form

Upper Form: The upper portion of the BP contains the basic (General) information that the form is managing, such as the name of the record and its description, who created the record and when, and other general information. It may also contain fields for referencing other forms, and it may contain fields that are required for specific functionality. This is an example of an upper form for a BP type called Work Orders:

Workflow or Action Details: This section appears in the middle part of workflow BPs. It is for viewing or assigning the next assignee in the workflow or shows the last person who acted on it. Depending on how the workflow has been set up for the BP, the next assignees may be predetermined, or you may be able to choose the next assignee or send a copy of the BP to another user. You can print workflow progress using custom print.

Non-workflow BPs do not have an Action Details section.

When you finish a form, selecting **Send** will show the **Workflow Action Details** window. The **To:** and **Cc:** buttons are active after you select a workflow action in the **Workflow Actions** drop-down list. If the Contact Lists feature is enabled for the BP and the step, the **Contact List** option is also active.

Note

If there is only one possible workflow action for a step, the action is auto-populated in the field.

You can track a step through the workflow by selecting the link **Workflow Progress** tab in the right pane.

In Classic View, select the notepad icon next to **Task Notes** in the Action Details section to add notes to the routed task. These are notes for the task recipients.

Content or Lower Form: The lower portion of the form contains the details and main content of the record, such as line items, file attachments for Document-type BPs such as transmittals or submittals, or comments or instructions in text-type BPs such as RFIs. Simple-type BPs do not have a Content section.

The lower form of certain BPs may be organized using multiple tabs. The BPs that support tabs in the lower form are:

- Line item type
- Cost type with the classification generic (line items with CBS codes, multiple codes, or account codes)
- Cost type with the classification lease, and the subtype line items with multiple codes

 Note

If the entire name is too long to appear on the tab, hover over the tab. The system will display the complete name in a tool tip.

The toolbar in the line items log contains the following options:

- **Form View**
- **Grid View**
- **Add**
- **Actions**
 - **Import**
 - * **Data From CSV File**
 - * **Data From Microsoft Excel File**
- **Refresh**
- **Print**
 - **Print**
 - **Export To CSV**
 - **Export To Excel**
- **Search**
- **Find on Page**

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a BP record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

The *gear menu* () for each line item contains the following options:

- **Copy**
- **Remove**
- **Add to Group**

About summary line item**Example**

When a subcontractor wants to provide input related to the cost of a Change Order, the subcontractor can add summary line items to the change order without being able to see the cost breakdown structure that the contractor, or the owner, is using. The contractor, or the owner, can then review the summary line items and add them to the cost breakdown, for each of the summary lines added by the subcontractor.

Auto-sequencing and Unique Values in Fields

The administrator can specify values on business process upper or lower forms that enable auto-sequencing, or that specify unique values (upper form only). These features are available for both company-level and project-level business processes, and can be used on workflow and non-workflow business processes.

Unique DEs can be defined for a BP at either the company level or the project/shell level and must be unique for the level in which they are defined and used.

Auto-sequencing

The administrator can configure auto-sequencing for certain data elements (DEs) on a business process (BP) form. This is in addition to the standard BP numbering, and allows the numbering of up to two fields on an upper form, and two fields on a lower form. For example, the administrator can specify that a "Name" field uses auto-sequencing to number business processes that have similar names. Auto-sequencing generation occurs for the business process when you select:

- **Send** on workflow business processes
- **Save** on non-workflow business processes
- **Submit** on non-workflow business processes for line items
- **Apply** or **OK** for line items

Note

- Fields configured for auto-sequencing are not available for Bulk Edit, because the values for these fields are system-generated.
- The auto-sequence DEs, at both record level and line item level, are generated when a record is submitted. For auto-sequence DEs defined at the line item level, when line items are added, the format of the auto-sequence is calculated but the value of the DE remains blank. When the record begins the routing process, the auto-sequence DEs are created. When other DEs use an auto-sequence DE in a formula, subsequent updates to the line item through any means will recalculate the formula.
- If you import a Folder Structure Template in the Document Manager or the Structure and Properties of a specific item in the Document Manager and there are fields that are enabled for auto-sequencing in the template or properties, the system applies the auto-sequencing of formulas and other values. This setting is applied to existing documents within the selected folder and to BP records generated from the updated folder or document.
- When a DE is added to the lineitem form and configured using the SYS Auto Sequence DD for a Summary Payment Application (SPA) BP, the sequence counter increments the sequence based on the line items present in the SPA BP. When the user adds lines to the SPA BP, the sequence is applied per line item regardless of any cost breakdowns that might have been added to any of the lines. (That is, the individual cost breakdown entries are not counted in the sequence and are not sequentially numbered.)

The following explains how the auto-sequenced fields work:

You can generate sequence numbers based on the unique values of parameters that have been used in formatting the sequence number. You cannot modify the values of parameters after they have been generated.

If the DEs, or parameters, do not have values, this type of sequencing number will not be generated.

The counter mechanism will increment based on the uniqueness of the value of the parameters.

Generating the sequence formatting is available for the following actions:

- “Send” on WF BPs, including the line items
- “Save” on NWF BPs
- “Submit” on NWF BPs for line items

If you remove a sequence-based DE from configuration, data will not be generated for any newly created BP records. The existing data will remain as is and will be read-only.

The system audits the DEs based on the SYS Auto Sequence.

When you create a BP record by way of the user interface:

- The system will not generate auto-sequence numbering if you reset one of the parameters.
- In the BP includes formula DEs that depend on **SYS Auto Sequence**, and a **SYS Auto Sequence** DE, the formula DE's values will not have a sequence value until the record or line item is updated, and after a sequence number is generated when the record is submitted or routed.

- Translation will not impact generating the sequence number.
- Since the auto-sequence fields are defined as formulas and formulas will always consider the value and not the label, you can use a parameter in an auto-sequence definition that has a data set, and one of the values does not have a label.

The configuration of auto-sequence setup will be retained in BPs:

- When creating and updating BP records through the user interface (UI).
- When creating and updating BP records through the bulk update and bulk edit.
- When creating BP records and line items by way of CSV files.
- When auto-creating BP records.
- When copying a BP record and then submitting, or sending, the copied BP record.
- When updating a BP record by way of opening the BP record through a reference link, or through a form sheet such as Cost Sheet.
- When submitting a BP record after creating a line item, through line item consolidation.
- When submitting a BP record after creating a line item and updating the line item through the grid.
- When creating and updating BP records through web services.

Unique Values

The administrator can configure unique value validation on DEs on business process upper forms. When unique DEs are deployed for use in business processes, the system checks and validates for duplicate values or including any leading or trailing spaces, and displays an error message, if applicable.

Example

If a business process has a field called **Invoice**, and should enforce that each invoice number is a unique string, this field can be configured to validate for a unique value. If you attempt to enter a string that is not unique (has been entered on another business process), you will get a warning message that an alternate value must be entered. Unique value validation occurs for the business process when you select:

- **Send** on workflow business processes
- **Save** on non-workflow business processes
- **Submit** on non-workflow business processes for line items

Note

- If you use **Bulk Edit** to update multiple records and attempt to update a field that has value uniqueness configured, only the first record will update (and is therefore unique).
- When a unique DE is not part of the integration validation form, the system will ignore the value sent via integration and restful services in the created business process records.

The system does not generate the record number (the value in the “record_no” field) until the BP record is moved from the creation step to the next step in the BP workflow. As a result, at the creation step, the value for the “record_no” field in any formulas will be null.

Note

The system re-evaluates the values in the record number field within the Publish Path (uuu_dm_publish_path) and the Record Information Publish Path (uuu_dm_record_info_path) DEs, after the record number is generated.

At the upper form level, any form level validation that is defined in the design and involves the "uuu_attachment_count" field will be processed when you select **Upload** or after submitting the form.

Note

If the Sys Auto Sequence DE is dependent on a value that is getting set only after the creation of the record, Oracle recommends that you run an update call to update all the line items to generate the auto-sequencing value.

Pickers

Pickers appear as selection lists on business processes (BPs) and other components. These pickers let the user choose elements such as dates, blanket POs, other users, companies, line items, funds, or currencies.

Some pickers are designed to display a structure to guide you to the correct location where a record resides, such as a specific project or a specific BP.

If the **Include only current Project/Shell records** option is enabled in the BP Data Picker Configuration window in uDesigner, you can only select current shell records in the **BP Data Picker** window or a drop-down list. However, if the project level BP Data picker is added in a company-level BP, the system ignores the above option.

Note

If both the **Show results matching any condition** option and the **Include only current Project/Shell records** option are selected in the BP Data Picker Configuration window of uDesigner, the system displays only those records that match either the **Include current Project/shell records** option or any of the specified query conditions.

By using this additional structure, you can navigate more easily through your BP records to the one you want. The *Cost Control* feature uses the following pickers:

Picker	Description
Account Code	Found on cost-type BPs for choosing company account codes.

Picker	Description
Activity	Found on project/shell-level BP forms for selecting activities from the master schedule sheet.  Note Activity Picker is supported on Timesheet BP (Line Item Details form) and can be used for selecting activities from the Master Schedule Sheet.
BP	For linking one BP to another (for example, to tie invoice BPs to purchase order BPs). Often, the field will be named something like Reference BP, although this is up to the designer of the BP. Depending upon the design of the form, some fields may be automatically populated when the referenced BP is selected.  Note The BP list that you see will depend on your permissions. Users who do not have permission to view a BP that may be part of the BP picker list will not see that BP on the list.
Commit Line Item	Used when you create a new line item for a change commit BP. This picker displays a composite view of base commit and change commits. The data elements on the picker are reference, description, and CBS code.

Picker	Description
Currency	For selecting a currency on a cost-type BP. If no currency is chosen by the creator of the record, the default is the project/shell currency. If there is not a Currency picker on the form, the currency defaults to the project/shell currency. Note If you select a different currency for transactions, the system correctly uses the exchange rates to calculate subsequent information. However, when you view the main form for the approved BP record, the system currently displays all the data elements (DEs) that are of the Currency Amount data definition (DD) for Project or Base currency values. Oracle recommends that you add DEs for the Decimal Amount DD for Project or Base currency values. If you view the Project Currency by selecting it from View Currency on the Line Item tab, the correct symbol is shown.
Date	Displays an interactive calendar from which the date can be chosen. For some BPs, dates in Date pickers can be set to automatically default. For example, this defaulting can be useful in the case of entering a delivery date and having the date default to today's date rather than having to use the Date picker to get a date.
Date Only	Displays an interactive calendar from which the date can be chosen. This picker lets you select a date from the picker or enter a date into the field. This picker lets you choose the date only, with no associated time or time zone. For example, you would not need time and time zone for a date like an equipment purchase date. Also, for some BPs, dates in Date Only pickers can be set to automatically populate the server date. For example, this defaulting can be useful in the case of completing an equipment purchase and having the date default to today's date rather than have to use the Date picker to get a date.
Document	On Line Item, Cost, Simple, and Project/Shell Creation BPs, for specifying Form Documents (that is, documents that might be required to accompany the BP record).
Fund	On Cost BPs, for selecting which fund (from the company funding sheet) the BP will allocate funds to or consume funds from.
Location	For selecting a shell.

Picker	Description
Planning Item	For selecting a planning item at the company level.
Project	For selecting a company-sponsored project. You can use this picker to auto-populate project data elements on other BP fields. The picker is designed to show Active, Inactive, View-Only, and On-Hold projects.
Project Template	For selecting a template to use to auto-create a project.
Resource	On timesheet, booking, or assignment BP, for selecting the resource to report on or assign. This picker always opens in Find mode and requires you to enter at least one search criteria, such as a name or a skill, to narrow the field of names to choose from. For timesheet BPs, use this picker to select the personnel to report time on. At runtime, the picker will default to read-only mode and show the current user's name, as the system assumes the user will be reporting his or her own time. However, depending on permissions, the picker can be editable to allow others, such as project managers, to complete timesheets on behalf of other workers.
Role	On timesheet, booking, or assignment BPs or for resource allocation sheets. It allows you to choose the role to report on or assign. On timesheet BPs at the project level, it will filter out those roles that have already been booked for other projects.
Shell	For selecting a company-sponsored shell to auto-populate shell data elements on other BP fields. The picker is designed to show Active, Inactive, View-Only, and On-Hold shells.
Shell Template	For selecting the template that should be used by a BP to auto-create a shell. The picker will show you a list of active templates that have been created for the shell.
User/Group	For selecting project/shell users (members of a project team) or company users (all users defined within a company). See more information under User Picker and Group Picker .
CBS	On Cost-type BPs, project/shell cost sheets, and on schedule activity forms, for selecting CBS codes.
Week	On Resource or Timesheet BPs for selecting a specific week for reporting.
Work Package	On Cost-type BPs, for selecting a work package for a Cost Sheet. This picker is populated with the work packages that have been created.

The following lists all the pickers:

- Account Code picker
- Activity Picker
- Allocation Template Picker
- Asset Picker
- Auto-update Status Setup Picker
- Bid Picker
- BP Picker

- BP Line Item Picker
- BP Line Item Data Picker
- CBS Picker
- CBS Code Picker
- CM0 Picker (Generic Cost Manager)
- CMx (Code and Record based) Picker
- CMx (Code based) Picker
- Commit Line Item Picker
- Company Picker
- Configurable Manager [Name] Picker
- Cost Attribute Picker
- Cost Code Picker
- Currency Picker
- Data Picker
- Date Picker
- Date Only Picker
- Document Picker
- Fund Picker
- Generic Cost Code Picker
- Group Name Picker
- Hyperlink Picker
- Image Picker
- Level Picker
- Location Picker
- P6 Activity Picker
- Planning Item Picker/Planning Line Item Picker
- Planning Period Picker
- Project Picker
- Project Template Picker
- Resource Picker
- Role Picker
- Role Data Picker
- Seasonal Date Picker
- Shell Picker
- Shell Code Picker
- Shell Template Picker
- Shell Data Picker
- Single User Picker

- SOV Picker
- Space Picker
- SYS Date Picker
- User Picker
- User Data Picker
- WBS Code Picker
- WBS Picker
- Week Picker
- Work Package Picker

For the following details, for each picker, refer to the *Unifier Data Reference Guide*:

- Data Element Name
- Label that will Appear on the Form
- Available for Forms on Mobile Device
- What it Does

At run-time, when a record is selected for a BP Data Picker, all the line items for referenced BP Line Item Data Picker that meet the query conditions defined on the Line Item Data Picker are displayed. For more information about where a BP Line Item Data Picker is supported, see BP Line Item Data Picker.

In the Action form, a line item data picker can be either editable or read-only.

- Editable: A line item from a line item data picker.
- Read-only: A disabled text box without select icon.

In the View form, a Line Item Data Picker will be read-only.

- Read-Only: A disabled text box without select icon.

If a picker is read-only, the display element of the selected line item in the previous step is displayed. If no line item is picked, or the display element does not have a value, the picker shows empty text box and is disabled.

Select the picker icon for BP Line Item Data Picker to view the detail forms of the source BP displayed as different line items.

 Note

The tabs that are visible in the picker configuration are shown.

All the source line items within each tab that satisfy the query conditions are displayed.

The Toolbar options are:

- Lineitem: This is a drop down that shows tabs from source BP. Tabs that are hidden in picker configuration will not be shown.
- Find: All the BP search elements that were added in **Find** tab are shown. You can further filter the line items based on the search parameters.
- Find on Page: Same behavior as in other logs in the system.

Line item log for each tab is displayed as designed.

CBS Picker

The CBS Picker has an auto-completion feature. If you know the code, begin typing in the CBS Code field, and the picker will show the top 10 matches. If you continue to type, the picker will narrow the list as it matches more of the characters you type.

In this picker, you can use the following keyboard shortcuts:

- Use the Up and Down arrows to move through the list
- Press the Enter key on a highlighted CBS code to confirm a selection
- Press the Backspace key to delete a selection
- Use the Tab key to make a selection and move to the next field on the form

In the **CBS Picker** log, you can click **Find on Page** to do a text-based search for each column. You can click **Find** to filter CBS codes. When you click **Find**, any additional defined elements become present and a **Show CBS Hierarchy** checkbox appears. To view the entire CBS hierarchy of filtered CBS codes, select the **Show CBS Hierarchy** checkbox to view summary level codes and child level codes below the CBS code.

WBS Picker

When you select the WBS Picker, the field displays all WBS codes that are available in WBS Sheet. You can select a leaf-level and summary-level WBS code per P6 project. The auto-populate data elements that are defined from the WBS Picker will be populated for the selected WBS code.

When the BP record (CBS-type or WBS-type) is routed to the next step, or to the terminal step, the amount or quality (amount and uuu_quantity data elements) will roll up to the WBS Sheet, per selected WBS code in the BP record.

In the WBS Sheet, when you add the columns, which are of data source type SYS BP Currency Amount and SYS BP Decimal Amount, the amount and uuu_quantity data elements values from the new Cost BP (Standard tab) line items will be rolled up.

When the BP record (CBS-type or WBS-type) is created and routed to the next step by way of CSV import, SOAP services, and RESTFUL services, the pertinent roll up will take place. For more information, see the *Unifier Integration Interface Guide*.

Bulk Edit

When you bulk edit multiple BP records (CBS-type or WBS-type) and change the status, the corresponding amount and quantity will roll up.

Note

You can use bulk edit to update all other data elements in the action forms.

Bulk Action

You can route multiple records at a time by going to the Task log and selecting one of the following options:

- Bulk Action with Preview

- Bulk Action without Preview

You can route the BP records (CBS-type or WBS-type) to the next step by using bulk action and roll up will occur if the BP status is added as a column in the WBS Sheet.

For the current workflow BPs, you can route the BP record through email. When routing the BP record through email to the next step, or terminal status, the corresponding amount and quantity data elements are rolled up to the WBS Sheet, in the same way the same line item rolls up to the Cost Sheet for the corresponding CBS Code.

The BP records (CBS-type or WBS-type) are available to be used for User-Defined Reports (UDRs), similar to other BPs.

In a project:

- If the WBS has not been created yet, the system does not allow the creation of a new BP record (CBS-type or WBS-type).
- When a BP record (CBS-type or WBS-type) is terminated, the data rolls back from both Cost Sheet and WBS Sheet.
- You cannot delete a WBS code that has line item data and is removed from P6.
- If the Cost Sheet is not locked, the system does not allow you to route the new BP record (CBS-type or WBS-type) to next step.

When you create a new BP record (CBS-type or WBS-type), the main form of the record appears and each line item appears as a tab (**Create New CBS/WBS BP** window). The following explains this form in detail.

The form is split into two panes. The left pane contains the upper form and contains tabs that contain line item details:

- **General** tab
- **Standard** tab
- **Payments** tab
- **Schedules** tab

The right pane contains the following tab:

- **Attachments** tab
To add attachments by way of browsing or Document Manager (if the uDesigner option is selected).
- **General Comments** tab
To add general comments (if the uDesigner option is selected).
- **Linked Records** tab
To include a link to additional records, similar to other BPs.
- **Linked Mail** tab
To include a link to emails.

The **More Actions** menu enables you to conduct the following:

- **Auto-create**
To use if there are any BP creators on the form, where user can define scheduled auto-creation.
- **Export Line Item Template**
To use the CSV template to import the line items, in bulk.
- **Print**

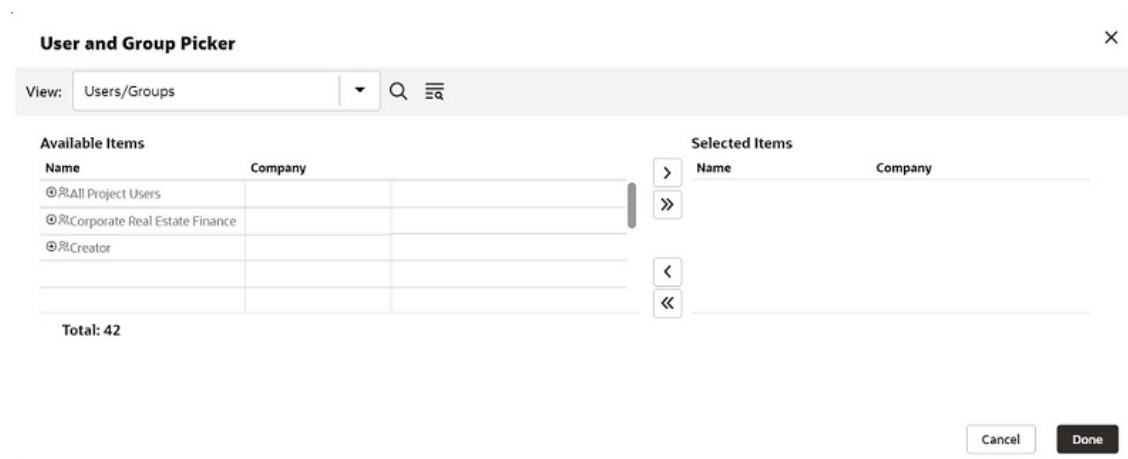
- **Reload**
- **Help**
- **Close**

User Picker and Group Picker

Most pickers operate in the same way. However, the User/Group Picker has several features that other pickers do not.

Note

If a User Administration design has been imported, the content of the User/Group picker (in User view) can vary. The Find window and sort order can also vary depending on the optional design created.



The list of users and groups in your company may be exceptionally long. To make reading the picker list easier, you can filter the names on the list by project/shell and by user or group, or both. To filter the user/group list:

- To filter the list by project/shell, use the **List Names From** field and choose the name of the project/shell. (This filter option is generally available only to administrators; for example, when an administrator is adding project/shell members.)
- To filter the list by user or group, use the **Show By** field to display users, groups, or both users and groups on the list.

To select a user or group:

1. To select a user or group for an action, select the name. To select multiple names, hold down the **Ctrl** key while you select the names.
2. To add the names for the action, select **Add**. The names are displayed at the bottom of the window.
3. Select **OK**.

To remove a user or group:

If you change your mind, you can remove a name from the action as follows:

1. At the bottom of the window, select the user or group you want to remove. To select multiple names, hold down the **Ctrl** key while you select the names.
2. Select **Remove**. The names are removed from the bottom of the window.
3. Select **OK**.

To view a user's profile:

Select the name, and select **View Profile**. The View User Profile window is displayed, showing work information for the user, including their Title, E-Mail, Phone Number, and Company Address. Use the drop-down list to view the user's information for either the company or shell level.

To see a list of group members:

Select the name of the group, and select **Members**. The Member List window is displayed. To remove a user from the list, deselect the checkbox beside their name.

Shell Data Picker

When you open the shell properties in User mode and use the shell data picker hyperlink:

- The shell data picker can be editable, read-only, or read-only with a hyperlink on the Action form.
- The shell data picker can be read-only or read-only with a hyperlink (in read-only mode) on the View form.

When you select the shell data picker hyperlink (in read-only mode) on the View form:

- If you are a member of the shell and have permission to the View form, you can see the View form in the shell details in view-only mode.
- If you are not a member of the shell, you cannot see the View form.
- If you are a member of the shell and have "Modify Properties" permission (in Access Control) for the shell, you can view the Action form of the shell in view-only mode.
- If the shell administrator accesses the shell data picker hyperlink, the administrator will see the Action form of the shell in view-only mode.

Note

Starting in 19.12.3, when you select the shell data picker, only the General tab information of the shell properties is seen.

Completing a BP Record Form

For detailed instructions on creating a BP record, see [Creating a Business Process \(BP\) Record](#).

To complete a Business Process (BP) form:

1. Complete the Main form.
Fields marked with a red asterisk (*) require an entry.
2. If you are creating a Line Item, Cost, Simple, or Project/Shell Creation BP and the record requires inclusion of specific documents, add the Form Documents.
For more information, see [Attaching Form Documents](#).

3. Add line items, if applicable.
 - If this is a cost or line item-type BP add line items as necessary.
 - If this is a Document-type BP, attach any documents to the form.
4. Add additional information, if applicable.
 - General comments.
 - Attachments to General comments.
5. After you have completed the form, do one of the following:
 - *If this is a non-workflow BP:*
 - Select **Save** to save your changes. Saving the form for the first time will save a new BP record and subsequent saves just save changes incorporated in the BP record.
 - Select **Submit** to save and process the record data. The record will be displayed in view-only mode.
After the non-workflow BP is 'submitted,' it can impact any of the following:
 - Roll up to the Sheets and Managers
 - Cashflow auto commits
 - Autocreation
 - RAP
 - Publish record info to DMS

When you create a record, the list of values for Status only displays those that are marked Active. When you update a record for which the current Status has been marked Inactive, you must select a different Status. The system uses the status values to track the state of a business process record and any line items it may contain. For example, a Pending status generally means people are still working with the record, while a Closed status suggests the record is completed. Records in Closed status are typically marked as Terminal, meaning the record has reached a point where no further input is either required or desired. You can still access a non-workflow record in a terminal status if the record is in Edit mode. However, if you select **Submit** when the record is in a terminal status, the record becomes permanently read-only and un-editable.

Note

For non-workflow business processes, the system evaluates the specified upper form validations specified in uDesigner only when the BP record is submitted by selecting the **Submit** option.

- *If this is a workflow BP:*
 - a. When you have completed the form, select **Send**. The Workflow Action Details form is displayed.
 - b. From the **Workflow Actions** drop-down list, select a workflow action. If there is only one possible action name, this step is pre-populated.
 - c. The **Send For** field displays the Step name. The step name is populated based on the selected Action name and is a read-only field.
 - d. The **To** field displays the possible list of assignees for the workflow step. Use the User/Group picker to select an assignee, if not already preassigned.

Note

If the Assignment Policy is set to Preassigned, the **Additional Task assignees from record and tabs** line is read-only.

- e. The **CC** field displays only if the workflow step allows CC users. Use the User/Group picker to select users who will receive notification on the BP record form. This field might be pre-populated based on the step setup.

Note

If the Assignment Policy is set to Preassigned, the **Additional CC users from record and tabs** line is read-only.

- f. If the Contact Lists feature is enabled for the BP and the step, the **Contact List** option lets you select the lists whose members who should be notified when the BP moves to the next step.
- g. If the selected step has a due date, the details of the due date are displayed. If not already preassigned, you can choose from one of the following options:
Set all task due dates as: Lets you set the same due date for all assignees.

Set individual task due dates: Allows you to assign different due dates for each assignee one at a time.

Select the **Calendar** icon corresponding to the option you chose. The Date picker opens. Select the month and year, and then select the date.

- h. Select **Send**.

Editing Values on a BP Record Form

The following table describes the values:

Note

- Select **X** to clear out values. You can also clear all field values by selecting  **Menu**, and then selecting **Reload**.
- Use the **Search** and **Find on Page** options displayed on pickers to find specific items. Use the pagination controls if multiple records are present.

Form Values	Description
Text fields	Text fields have an input box.
Data Pickers	You can click Picker  to launch the picker screen, select a record, and then click Select .
BP Pickers	You can click Picker  to launch the picker screen, select a record, and then click Select .
Document Picker	On Line Item, Cost, Simple, and Project/Shell Creation BPs, you can specify which fields must include Form Documents (that is, documents that might be required).

Form Values	Description
Line Item Picker	Use the Line Item picker to select a line item. You can click Picker  to launch the picker screen, select a record, and then click Select .
 Shell Picker	For selecting a company-sponsored shell to auto-populate shell data elements on other business process fields. The picker is designed to show Active, Inactive, View-Only, and On-Hold shells. You can use the Type drop-down menu to view by Shell types.
Space Picker	The space log and space types are displayed. You can filter using the View drop-down menu. Space types are displayed on the left and the right grid displays the log for the selected space type.
Image Picker	For uploading images.
Hyperlink Picker	For adding and updating hyperlinks.
CBS Picker	On Cost-type BPs, project/shell cost sheets, and on schedule activity forms, for selecting CBS codes.
Work Package Picker	On Cost-type BPs, for selecting a work package for a Cost Sheet. This picker is populated with the work packages that have been created.
Transaction Currency Picker	The Transaction Currency picker displays the Project Currencies. Columns seen here are Currency Name and Currency Symbol.  Note If you select a different currency for transactions, the system correctly uses the exchange rates to calculate subsequent information. However, when you view the main form for the approved BP record, the system currently displays the Project Currency Amount field using the applicable symbol for Transaction Currency instead of the symbol for the Project Currency. For example, if the Base Currency for the project is US Dollars (\$) and you select China Yuan Renminbi for the Transaction Currency, the system incorrectly displays the Project Currency Amount using the Yuan symbol (¥) on the main form. If you view the Project Currency by selecting it from View Currency on the Line Item tab, the correct symbol is shown.

Form Values	Description
User Picker	For selecting project/shell users (members of a project team) or company users (all users defined within a company). The options you see are contextual. Use the > or < controls to move the selected group or user from the Available Items list to the Selected Items list.
Commitment Summaries Picker (CM)	For selecting commitment summary that is used by a Generic Cost Manager in a shell.
Account Code Picker	For selecting company account codes included in the Cost-type BP.
CM0 Picker	For selecting Generic Cost Code.
Seasonal Dates Picker	For selecting Seasonal Dates record in the system. This is a system-defined picker.

Supported Data Pickers

The following is a list of the data pickers supported in the BPs:

Note

These data pickers support the Type Ahead feature.

- Account Code Picker
- Activity Picker
- Allocation Template Picker
- Asset Picker
- Auto-update Status Setup Picker
- Bid Picker
- BP Line Item Picker
- BP Picker
- CM0, 1 to 25 Picker
- Commit Line Item Picker
- Company Picker
- Cost Attribute Picker
- Cost Code Picker
- Currency Picker
- Date Only Picker
- Date Picker
- Document Picker
- Fund Picker
- Group Name Picker
- Hyperlink Picker

- Image Picker
- Location Picker
- P6 Activity
- Planning Item
- Project Picker
- Project Template Picker
- SOV Picker
The system does not permit type ahead for the SOV Picker field, in both form view and grid view.
- Resource Picker
- Role Picker
- Seasonal Dates Picker
- Shell Code Picker
- Shell Picker
- Shell Template Picker
- SYS Date Picker
- User Picker
- WBS Code Picker
- WBS Picker
- Week Picker
- Work Package Picker

Refer to the *Unifier Data Reference Guide* for details.

Creation Step

The create BP record form opens as a pop-up window. When you create a record, the list of values the form contains tabs (main form and line item tabs), and toolbar options. The main form is displayed as the first tab and each line item tab appears as subsequent tabs. The left pane displays the record details and line item details. The right pane displays additional tabs associated with the main form or line items. You can resize the left and right panes using the

 **Resize** icon.

Main form:

The main portion of the business process form contains information about the BP record, such as the name of the record, description, who created the record and when, and other general information. Additional informational blocks defined by your administrator are also displayed. You can collapse and expand these blocks.

Toolbar Option	Description
Save Draft	To save a draft of the form. You can view your drafts by selecting Home and selecting Drafts .

Toolbar Option	Description
Send	To route a workflow business process to the specified recipients. This option is displayed only for workflow BPs.
Submit	Use Submit when you have finished editing a record. Displayed on all Non-Workflow BPs when in Edit Mode.
More Actions	The options you see under this menu are based on the BP design. • Auto-create: Displayed on any BP that can auto create other BPs. • Print HTML, PDF and Custom: Displayed on all BPs. You cannot print draft records. • Export Line Item Template: Displayed on any BP that has detail form integration interface defined. • Reload: Displayed on all BPs. This option will reload the page. • Help: BP specific help option. Your company or project/Shell administrator may provide a custom Help file to give you information about a specific business process. If a custom help file is available, it will be listed under the Help menu for the business process log or form. • Close: Close the record.

The right pane displays the following tabs associated with the main form: Attachments, Comments, linked Records, and Linked Mail. For Portal BPs, Attachments and Comments tabs are displayed.

If the **Attachments** tab of the business process form contains any attachments, an **Attachment**  indicator is displayed. If the tab contains no attachments, the right pane is refreshed and the indicator is no longer displayed.

If the **Comments** tab of the business process form contains any comments, a comment indicator () is displayed. If the tab contains no comments, the right pane is refreshed and the indicator is no longer displayed.

Line Item form:

Line item tabs are displayed after the main form tab. All line items are displayed on the left pane, and the right pane displays the details form associated with the selected line item. The right pane contains the Details form, Attachments, and Linked Records. The Attachments tab is displayed only if the line item form supports the addition of attachments. Query based tabs will not be seen in the Creation step. The *gear menu* () displays next to each line item on the left pane and contains all available actions you can perform on the line item. The following options are displayed on the *gear menu* (): **Copy**, **Copy With Attachments** (option seen only if attachments exist), **Add to Group**, and **Remove**. The Copy, Add to Group, and Remove options are displayed only if it is specified in the form design.

Toolbar Options	Description
Add	To add new line items. The Add button will be seen only if the form design allows for line item additions.

Toolbar Options	Description
Actions	The following actions will be seen: • Import • Consolidate Line Items
 Refresh	Refreshes the line items. All unsaved manual edits will be lost.
 Print	Prints the list view. You can choose from: Print , Export To CSV , and Export To Excel . Note • For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. • If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
 Search	Enables users to search for specific line items across all pages.
 Find on Page	Enables users to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
 Collapse All Groups  Expand All Groups	To expand or collapse line items groups. These icons are displayed only when line item groups are present.

Update Step

The following options are displayed when the form is in edit mode.

Toolbar Options	Description
Send	To route a workflow business process to the specified recipients. This option is displayed only for workflow BPs.
Save Draft	To save a draft of the form. You can view your drafts by selecting Home , and then selecting Drafts .
Submit	Use Submit when you have finished editing a record. Displayed on all Non Workflow BPs when in Edit Mode.
More Actions	The options you see under menu are based on the BP design. • Auto-create: Displayed on any BP that can auto create other BPs. • Print HTML, PDF and Custom: Displayed on all BPs. • Export Line Item Template: Displayed on any BP that has detail form integration interface defined. • Terminate Record: Displayed on all BPs. This option is displayed only if the user has permissions to terminate records. • Transfer Ownership: Displayed on all BPs. This option is displayed only if the user has permission to transfer ownership. • Undo Accept Task: Displayed on all workflow BPs. This option is displayed only after the user has accepted a task. • View Map: Displayed on all BPs that support geo-coding.

View Step

The View BP record form contains read-only fields and options that are applicable in the View step. The form is divided into two panes- the left pane displays the main upper form and the line items associated with the record, the right pane displays additional tabs associated with the main form or line items. The main form is displayed on the left pane as the first tab, and each line item tab appears as subsequent tabs. You can resize the left and right panes using

the **Resize**  icon.

The main form contains Task Details and other informational blocks defined by your administrator. You can collapse and expand these blocks. The Task Details section of the form contains details of the assigned task and displays the following fields: From, To, CC (if applicable), Sent For, and Task Due Date (displayed if the task has an assigned due date). This section is not shown for users who have previously declined the task or are on the CC list.

The Attachments, Linked Records, General Comments, Linked Mail, Reference Records, Workflow Progress (displayed if user has permission to view progress), and Audit Log (displays only if user has the required permission) appears as tabs on the right pane. The information in these tabs is read-only.

Toolbar Option	Description
Accept	Accept a task. This option is displayed for workflow BPs. You may see this option if your non-workflow BPs is an I Step record.

Toolbar Option	Description
Decline	Decline a task. This option is displayed for workflow BPs. You may see this option if your non-workflow BP is an I Step record.
More Actions	The options displayed under this menu will vary based on the BP design. • Add more assignees (Displayed for workflow BPs.) • CC more users (Displayed for workflow BPs.) • Review • View Record location • Auto-Create • Export Line Item Template • Email as Attachment • Print - HTML, PDF, and Custom • Terminate Record • Transfer Ownership • Help • Close
Edit	Edit non-workflow BPs. This option is displayed only if you have permission to edit.

Auto-Populating Fields in a BP Record

Using the auto-population feature, you can automatically populate fields on a form or line item at the time the form/line item is created. Auto-population can occur on business processes that are in the same shell, or across shells. Using auto-population means that you do not have to enter data in every field in a form. For example, this feature could automatically fill in a "Plant Location" field from an attribute form.

For another example, the date field on a timesheet could be set up to default to the server date and time so that you do not need to use a date picker. Or a field could be set up to automatically display a title or other text that you would normally need to fill in on a frequent basis.

In addition, auto-population can be used with the Unifier portal. When a user logs into the portal to submit a form, such as a work order, the user's information, such as his/her location and department, can be automatically populated on the work order. Or when an employee "move" request is created, the current location of the employee can be auto-populated onto the move request form.

Fields on a form can be auto-populated from the following sources:

- Fields on an attribute form for managers (except a code-based configurable manager)
- Fields on another business process form or line item
- Fields on a User Attributes form (via a user data picker)
- Shell Attribute Forms
- Fields from an upper form (to fields on a detail form)
- Fields on single-record BPs at the company, shell, or project level
- Fields on an SOV (for a payment application BP)

- Fields from document properties of a line item attachment
- The total value from a line-item numeric field (can populate a field on an upper form; becomes a read-only field)
- A constant value that was specified for a field when the form was created

Note

If you configure specific Data Elements (DEs) to auto-populate from a Base Commit BP, do *not* configure the same auto-population using CSV, Microsoft Excel, or REST API in an SOV sheet for General Spends, Payment Applications, or Summary Payment Applications.

Exceptions

When BP records and line items that have auto-populate DEs defined from pickers (all data pickers, BP picker) are updated through integration (REST API and Excel update), the auto-populate DEs from the picker are *not* updated when the input request does not include a picker value. Additionally, if a Data Picker DE is excluded from the integration interface for a BP, changes to the source DE are not reflected in the line item as a result of a REST call. Conversely, if a Data Picker DE is included in the integration interface for a BP, changes to the source DE are reflected in the line item as a result of a REST call.

Note

- Auto-population is also not triggered if the picker element is in the Main form of the record, when the input request (REST API and Excel update) includes the same value for the picker.
- Although uDesigner supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is only supported for decimal or current amount DEs.

Additionally, when a picker (destination picker) in a detail form is designed to be auto-populated from another picker (source picker) from the **Upper** form, the system auto-populates the DEs from the former picker (destination picker) when a line item is created, only if a picker value (from the source picker) exists in the **Upper** form.

Reverse Auto-Populating (RAP) Fields in a BP Record

Some data elements (DEs) on forms can be updated using "reverse auto-population" (RAP). These DEs are specified when the form is designed. Reverse auto-population means that some values can be automatically updated when other values are modified in a business process (BP) form. Note the following:

- The data fields in a BP form can be updated through RAP, including those in the behavior set of a DDS.
- RAP does not occur for projects/shells with View-Only or Inactive status.

- RAP is not supported for non-workflow BP records that have an Inactive status.
- RAP is not supported for single-record BPs, except in the case of BPs existing under child shells, which can reverse auto-populate to single-record BPs under any parent shell in the shell hierarchy.
- The system does not support RAP for any data pickers that use the BP Line Item selectors. None of the data picker DEs (including the user data picker DE) can have "Reference BP Line Item Selectors," when defining RAP. Other DEs can have "Reference BP Line Item Selectors," when defining RAP.
- RAP on line items will not cause the system to re-evaluate the upper form elements that may depend on the line item values.

Reverse Auto-Population in Auto-Created Business Processes

A BP can be designed to update the record or line item that auto-created it. For example, a Meeting Minutes BP auto-creates Action Items BPs from line items. If you update the Meeting Minutes BP line item, the Action Item BP can be updated via reverse auto-population.

In another case, if a BP auto-creates a line item for an existing record, that line item can be updated with information from subsequent steps in the workflow.

Business cases that might use reverse auto-population:

- A work order could reference the line items on a preventive maintenance type BP. Certain updates in the work order could be reverse auto-populated onto the line items of the preventive maintenance type BP.
- Changes to the detail form in a BP under a child shell could result in changes to the upper form of a single record non-workflow BP under any parent shell in the shell hierarchy.
- Lease payment requests could be auto-created from a lease BP. An approved payment request could reverse auto-populate the lease BP's line item status to "approved."
- A move order BP could reference an asset record. Updates on the move order could be reverse auto-populated onto the asset record.
- An office move order BP could reference a User Attributes form. After the move is complete, the user's new location could be updated on the attribute form. (This kind of reverse auto-population is normally triggered when you choose a user from a data picker, rather than when a BP is auto-created.)

Reverse Auto-Populate Status of Non-Workflow BP

The Status DE on a non-workflow BP can be Reverse Auto-Populated (RAP) from another non-workflow or workflow BP.

Example

A non-workflow Asset BP record is in an "In_Service" status. Another BP goes through approvals to shut down that Asset. As a result, the Asset BP status changes to "Inactive."

The following explains the function of the Data Element (DE) of Data Definition (DD) = "Record Status Pulldown" at runtime:

If the DE is set to Reverse Auto-Population on a BP form and a default value has been defined, the BP form renders the DE to display the default value. You can change the default value.

If the DE is not set to Reverse Auto-Population on a BP form, the BP form renders a read-only value because the BP form does not have a configured RAP, in which a data set has been defined for the DE.

Example

BP Form 1 is configured for RAP and two DDs (DD = "Record Status Pulldown") have been set as A and B. The BP Form 1, will render the DE as Editable, Required, or Read-Only as defined. If the DE is designated as "Editable," you can select A or B.

BP Form 2 is not configured for RAP, so the BP Form 2 renders the DE as read-only, irrespective of the settings. The DE value is the one that you have selected for BP Form B.

BP Form 3 is configured for RAP and two DDs (DD = "Record Status Pulldown") have been set as C and D. The BP Form 3, will render the DE as Editable, Required, or Read-Only as defined. As a result, the value from BP Form 1 is deleted. If the DE is designated as "Editable," you can select C or D.

BP Form 4 is configured for RAP and two DDs (DD = "Record Status Pulldown") have been set as D and E. The BP Form 4 will render the DE as Read-Only as defined. If you select C in BP Form 3, the value is deleted. If you select D in BP Form 3, the value will be retained. If the DE is designated as "Editable," you can select D or E.

If RAP is configured such that the destination is a non-Workflow BP, and the destination record is in finished or edited state, the RAP first brings the record to an "Edit" state and then back to finished or edited state (rollback).

Reverse Auto-Populate Status of Workflow and non-Workflow BP Errors

The Reverse Auto-populate (RAP) will fail if an invalid or inactive Status has been defined in the data set value during RAP configuration of a destination non-Workflow BP. (Error messages might include: RAP to "Status" has failed because an invalid value was detected in the source element. Or: The data element cannot be updated in destination BP as record status is inactive. Or: The selected record status is inactive in destination BP and cannot be updated.) The system logs these errors, which you can send to the user who has been designated to receive source BP error notifications in the "Send error notification to" section of the Business Process Setup window. The error email notification will have the following two additional fields to assist the recipient with identifying the source:

- Destination Reference
- Source Reference

You can find the reasons for the reverse auto-population (RAP) failures in the audit log of the BP record. In addition, on occasion the system generates error codes for reverse auto population failures which can be used to troubleshoot the reverse auto population failures.

Reverse Auto-Populate Status and Email Messages

The Reverse Auto-populate (RAP) email messages will notify you if the RAP fails, during runtime, and include the following details for better traceability:

Note

The Reverse Auto-population (RAP) option can take place between different elements, if the option is included for those elements.

For Source Business Process and Destination Business Process:

- Destination Reference with BP Record number (Destination Reference: Where you have the field with a value that can change through RAP.)

- Source with Source BP Name (Source Reference: Where you have the field with a value that you can change, and as a result, update the Destination through RAP.)
- Source Reference with Source Record number

For Source Business Process and Destination P6 Activity Sheet:

- Destination Reference with P6 Activity ID (uuu_P6ActivityId)
- Source with Source BP Name
- Source Reference with Source Record number

For Source Business Process and Destination Asset:

- Destination Reference with Asset Name (uuu_asset_name)
- Source with Source BP Name
- Source Reference with Source Record number

For Source Business Process and Destination Planning:

- Destination Reference with Planning Item (uuu_planning_item), if feasible
- Source with Source BP Name
- Source Reference with Source Record number

For Source Business Process and Destination Shell:

- Destination Reference with Shell
- Source with Source BP Name
- Source Reference with Source Record number

The following is a sample of an RAP email message that displays the changes done when a DE is reverse auto-populated.

This is a system-generated e-mail message. Do not reply to sender.

Company:BDRTech

Destination:	AssetV
Destination Reference:	test asset1
Source:	Contracts
Source Reference:	CON-000105
Time of Request:	Fri Jul 29 19:32:29 IST 2022
Result:	Failed

Reason: Update Business Process failed because field:uAddress1TXT120 is a required field.

[View in Unifier](#)

For Oracle technical assistance <http://www.oracle.com/us/support>

Viewing Messages or Cc'd Tasks

If someone copies you (Cc) on a task, it is not a task for you, but it is for your information only and called a message. These business process record copies are listed in your **Notifications** log. You will usually be notified by email when you have a new a message. If you receive an email notification, select the hyperlink at the bottom of the email. You will be directed to the Sign In screen and, after you log in, to the project/shell or company **Notifications** log.

Note

Notifications for View-Only projects/shells are listed in the **Notifications** log, but you cannot add general comments to these messages.

Notifications are view-only snapshots of the form at a particular step and remain available for viewing until the BP is sent to the next step. Notifications received for an end-step will remain available in the log.

To view your messages from:

- **Home** workspace, select the **Home** node, and select the **Messages** link listed under **Items Requiring Your Attention**.
- **Home** workspace, and select **Notifications**.
- Project/shell tab, switch to **User** mode, and select **Notifications** in the left Navigator.

Accessing a BP Record from an External System

The system provides a data element for business processes that can display a URL for access to Unifier from an external system. If the business process contains this URL field, you can open a view-only copy of the record from that external system.

For example, you might have notifications from the system that are sent to email programs, such as Microsoft Outlook or Yahoo Mail. From that email program, you could open a view-only copy of the business process. Or, you might have an approval process that resides outside of the system. At a certain point in the workflow, the business process record data could be sent from Unifier to that external approval process. From that external system, you could open a view-only copy of the business process record.

Note

If this business process created records before this URL field was added to the form, those records will not show data in the URL field. Only new records will show data in the URL field. Any business process designed to be opened from an external system must be available in the **Master Log - Business Processes** grouping node.

To open a business process from an external system:

You must be an active member of the project, shell, or sub-shell, and have at least view permission to the **Master Log - Business Processes** grouping node that lists/contains the business process record you want to view.

Use the URL to access Unifier. This URL will open the Sign In window. After you are signed in, the system will display the business process record in view-only mode.

Note

If the system has been configured to sign in users using single sign-on (SSO), the **Sign In** window will not appear.

Depending on what permissions you have, you can take the following actions from this view-only copy of the record:

- Terminate the business process
- Print the business process
- Send Mailbox
- Transfer ownership
- View reference records
- View the audit log
- View record attachments, general comments, linked records, and linked Mailbox
- Select line item tabs and open the line items in grid view
- Use the Find feature to locate line items

- Use any hyperlinked field, such as a picker, an image, or a URL, or the workflow progress link
- View the assignees and cc'd users on the step

Business Processes in Company Logs and Logs Nodes

The **Company Logs** grouping node is in **Company Workspace**, and the **Logs** grouping node can be accessed in a project/shell. You can use the **Company Logs** grouping node and the **Logs** grouping node to access the business processes (BPs) that you have permission for.

Note

By default, the out-of-the-box (OOTB) version of the product includes a **Company Logs** grouping node in the **Company Workspace** and a **Logs** grouping node in projects/shells. If the Company Administrator configures the User Mode Navigator for your organization and modifies the appearance and organization of the modules and BPs that are available in the left Navigator, the **Company Logs** and **Logs** grouping nodes might be named differently. For example, you might need to select the Budget Management module in the left Navigator to view the BP log for it.

You can use the enhanced **Search** option (described in the table) in the following logs and logs nodes:

- Company Logs
- Tasks log
- Drafts log
- Logs
- Line Item Consolidation page
- BP Picker
- BP Data Picker
- Query-Based Tab (QBT)
- Bidder Log
- Portal Log

To access the BPs in **Company Logs** grouping node:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, expand the **Company Logs** grouping node to see the BPs.

To access the business processes in **Logs** grouping node:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, expand the **Logs** grouping node to see the BPs.

The following explains the log elements in both **Company Logs** and **Logs** grouping nodes. The logs in each grouping node are divided into two panes, left and right.

The toolbar options and columns on the left pane are:

Option/Column	Description
Create	To create a new record and subsequently add attachments, add comments, and include link to other records.
Actions	To perform the following actions: • Import • Export CSV Template • Export Microsoft Excel Template • Create From Template • Bulk Edit • Print • Transfer Ownership • Terminate Record • View Import Audit Log
View	To change the view of the log based on the following options: • All Records (default) • Records Created by Me • Records Received by Me • Records Created and received by Me • Records from My Company • Create New View • Manage Views
Edit View 	To edit the current view.
Refresh 	To refresh the contents of the log.
Print 	To print or export the contents of the log.
Search 	Lets you search the log for a specific field or combination of fields, which filters the BP records based on the selected criteria. In addition to completing the applicable fields that are displayed in the Search window, you can use the wildcard characters percent (%) and underscore () to refine your search. The percent character represents any number of characters, including letters, spaces, numbers, and so on; the search returns all results that contain the search string. The underscore character represents one character. For example, in a Title field, enter Co%ts . The list of results contains all records that include a word that starts with Co and ends with ts .
Find on Page 	Lets you find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
<BP-specific> Help 	Lets you access the specific help for the selected BP.

The tabs on the right pane are as follows. The information in each tab corresponds to the record that has been selected.

Note

Displaying a tab depends on the BP type (such as Workflow or non-Workflow), your permissions, and whether AI features have been enabled for your environment (**Task Assist and Progress Guide** is only available for Workflow BPs).

Tab	Description
Progress Guide	If your Company Administrator enabled Task Assist and Progress Guide , enables you to view details about a workflow BP, such as dependencies, actions required, and related BPs.
Record Details	Enables you to see the details of the record that are selected on the left page. The record details seen depend on the form that you have access to.
Workflow Progress	Enables you to see the details of the workflow progress which includes: • View Graphic • Title • Record Number • Current Step • BP Setup Used • Assignee Reassignments? • Step Name • Assignee • Company: This column displays the assignee's company name. For Partner users, this column shows the assignee's Partner Company name. • Status • Action • Completion Date You have the option of filtering (Filter By) the information displayed on the workflow progress.
Attachments	Enables you to access the record attachment, if available. For each attachment, you can select the <i>gear menu</i> (⚙️) to conduct the following: • Open • Open in AutoVue (You can also open an attachment by double-clicking the name of the attachment) • Download

Tab	Description
Integration Log	This tab displays only if a connection with Oracle Integration is set up and enabled for workflow BPs. It displays a history of workflow BPs with the following information: • Date • Workflow • Step • Action • User • Company • ID • Status • Started • Finished • Comments Note When a Workflow BP is created, it displays the status as <i>Initiated</i>. Subsequent updates to the Status, Started, Finished, and Comments fields are based on the APIs invoked in the Oracle Integration recipes for the Workflow BP. This tab is also available for Workflow BPs in the Master Log -Business Processes node of the Navigator.

Additional View Form Accessibility in Record and Log Previews

When you view the record preview and the record details upon opening a record, the content seen depends on the form that you have access to. Your administrator may have set up restrictions to view certain form data and may have given access to a View form. This View form may be different from the View form associated with the workflow.

If you have View restrictions for multiple View forms, the first View form from the View Forms list in the BP setup is displayed. If you do not have View restrictions, the Step form is displayed. This is applicable for Record Owners, Record Editors, and Step Editors.

If the end form is an Action form and you have View restrictions, the appropriate View form is displayed. However, if you do not have View restrictions, the Action form is displayed.

If the end form is a View form and you have View restrictions, the Restricted View form is displayed. However, if you do not have View restrictions, the View form that is part of the end step of the workflow is displayed.

Record Content Impacted by Additional View Form Accessibility

The additional accessibility of View forms impacts all areas where you can open and view record content. These areas are listed below:

- Workflow BP and Task logs
- Reference Records
- Linked Records
- Dashboard Drill Down Records
- BP Picker, BP Data Picker, and BP Creator links
- Permission-driven Data Sources
- Cost Sheet, Funding Sheet, SOV Sheet, Schedule Sheet, and so on
- Email Notifications
 - If you have View restrictions for the View form in the BP setup, the email has the data elements that are part of the View form. In the case of a task assignee, if the previous checkbox is not selected, the email has the Step form elements.
- HTML and PDF Print views
 - If you have access to a Restricted View form, the View form data is displayed.
- I-Step Records
- Mobile applications

Note

Additional accessibility is not applicable for Master logs since the BP setup is done at the project/shell levels.

When you are an I-Step Assignee, and the record is in the I-Step (initiation step):

- For workflow BP Records, the existing form (Action or View) is populated as a read-only form based on the **Reference Form** field value configured by your administrator.
- For non-workflow BP records, the existing form will be seen as a read-only Action Form.

If you are an I-Step Assignee, and the record is in the I-Step (initiation step), the existing form will be seen as read-only end-form for Workflow BP records and read-only action-form for Non-workflow BP records.

If the user is an I-Step Assignee but not the creator of the record, and the record is in post-creation step, a restricted view form will be seen if the I-step Assignee has access to restricted view forms.

When I-Step Assignees have access to restricted view form, the following rules apply:

User Name	User Role	Record Status	Form The form that will be seen upon opening the record, as well as in the Logs (BP log) Preview.
User A	I-Step Assignee	Initiation Step	Read-only Action Form/End Form
User B	I-Step Assignee-Creator	Creation Step	Action Form
User C	I-Step Assignee-Not a Creator	Creation Step	Restricted View Form

Deleting View Forms

When you delete a View form, the system removes the View form from **View Forms** tab in the **Business Process Setup** window.

Important

When you delete a View form in the Staging environment and create a new View form, the new form:

1. Gets the ID of the deleted form (permissions, users, and so on).
This is configured in: Go to the Company Workspace tab, and switch to Admin mode. In the left Navigator, select uDesigner, and then select Business Processes. Open the applicable BP ... View Forms (delete or add new one).
2. Appears in the Business Process Setup automatically; meaning, it does not go through the regular way of creating a new form, deployment, and then added (within the BP Setup module).
This is configured in: Go to the shell tab, and switch to Admin mode. In the left Navigator, select Setup, and then select Business Process. Open the applicable BP ... (same as above) View Forms (Deleted or added new one).

When you open a Non-Workflow BP, the system checks to see whether you have the appropriate permissions.

Note

There are no changes to the **Permissions** tab in a Non-Workflow Business Process log and **Access Control**.

To be able to view Non-Workflow BP records, you must have the following permissions:

- Navigation-level access (left Navigator) to view the Non-Workflow BP record.
- View All Records
- View Company Records
- View User Records

At the Non-Workflow Business Process log level, you must have at least the "View" permission to view the record content.

The **Views** setting of the **Permission Settings** block (**View Forms** tab) of a Non-Workflow BP sets the visibility of the data (including tabs) when you open the record.

Create a New View of a Log

1. Open the applicable log, and select **Create New View** from the **View** menu.
By default, the **Columns** tab is selected.
2. From the **Available Columns** box, select the columns that you need, and select **Move** > to move your selected column to the **Selected Columns** box.
The **Selected Columns** box contains the columns that are seen in the log view. The last column in the **Selected Columns** box is not available for locking.

3. If you want all the available columns to be seen in the log view, select one column in the **Available Columns** box, and select **Move All** » to move all columns to the **Selected Columns** box.

To move multiple available columns at the same time, select one column in the **Available Columns** box, hold down the **Ctrl** key, select each additional column from the **Available Columns** box, and then select **Move** > to move all the highlighted columns to the **Selected Columns** box.

You can move each column in the **Selected Columns** box by using:

- **Move Up** ^
- **Move Down** v

You can move multiple columns in the **Selected Columns** box by using:

- **Move to Top** ⤴
- **Move to Bottom** ⤵

To lock columns in the log view or determine the number of records, or both, use the following drop-down fields in the **New View** window, respectively:

- **Lock after selected Column**
 - **Number of Records per Page**
1. Complete the **Filters** tab.
If you want to view only non-workflow BP records that are in an editable state (that is, you want to exclude records that have a status such as submitted, terminal, or initiated), select the applicable options in the **Record** section, and then set the **Show Edit Records** option to **equals** and to **Yes**.
 2. Complete the **Group By** tab.
 3. Complete the **Sort By** tab.
 4. When you are done, enter a name for your view in the **View Name** box, and select **Save**.

Creating a Business Process (BP) Record

You can create a business process (BP) record and access that record from any of the business process logs (**Company Logs** in **Company Workspace** or **Logs** in a project/shell).

Note

You must have the proper permissions to create a BP record.

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

After a workflow record is created by using any workflow schema (unique combination of Setup Name + Workflow Name), the workflow record continues to reference the workflow schema even if the status of the workflow schema has been set to **Inactive**.

This condition includes workflow records that are in the following statuses:

- Draft
- Initiation Step (I-Step)
- Also, this condition includes any workflow record at any other step in the workflow.

If there is an Active BP Template, the Template continues to create records referencing the Inactive workflow schema. For instructions on creating a template, see [Creating BP Templates and Scheduling BP Creation](#).

A new BP record can be created in the following ways:

- Manually create a new BP record, starting with a blank form.
- Copy an existing BP record in the same log. The fields will be populated with the original record entries, which can be edited as necessary.
- Create a BP record from a template.
- Auto-create a BP record from another record at a specified step (S-Step) in a workflow.
- Auto-create a BP record when certain conditions are met or at a specified frequency.
- Create a BP record from the **Master Log - Business Processes** grouping node.
- Create a BP record from within the Document Manager, selecting the documents or folders to include as attachments.
- Auto-create a BP record using the Scope Management feature of the Schedule Manager.

Before You Begin Creating a Business Process (BP) Record

Be sure that you have the proper permission settings. All functions are controlled by fully configurable permission settings, including creating business processes. Contact your project/shell or company administrator regarding permission settings.

A business process (form and workflow) must be imported, configured, and set up by an administrator before it can be used.

You cannot create records of other business processes in a business process log (except in the **Tasks** log and **Master Log - Business Processes** grouping node).

For a Workflow Business Process, when you create a record, if the next step is match step *Creation* (per workflow setup), the *To* list will be populated with the user who has signed in.

The users that have been removed from the group, and the newly added users, will not be displayed in the Workflow page, when you create a BP record manually, by way of a template.

Gaps in Generated Business Process Record Number

The Business Process (BP) record number is sequentially generated when you create a record. The newly generated record number is locked so that other records (being created at the same time) cannot use that number. If the BP record cannot be created for any reason (for

example, Cost Sheet rules or validations that exist at the SOV level), the system only voids the generated record number and does not reset the record numbering sequence to allow another BP record to pick up that generated number. This operation generates gaps in BP record number generation.

Manually Creating a BP Record from a BP Log

The following is a general procedure that can be used to create a new BP record from any BP log (Company or Project/Shell—**Company Logs** or **Logs**).

Company Logs

To create a new BP record from *Company BP log*:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Company Logs**, and then select a BP to open the BP log.
3. From the toolbar, select **Create** to open the **Create New <BP NAME>** window. The **Create** option is not available if you do not have the permission to create a record.

You cannot create records of other business processes in a business process log (except in the **Tasks** log and **Master Log - Business Processes** grouping node).

Example

You cannot create a Meeting Minutes business process record in an **Action Items** business process log.

4. When finished, select **Create**.

Project/Shell Logs

To create a new BP record from *Project/Shell BP log*:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select a BP to open the BP log.
3. From the toolbar, select **Create** to open the **Create New <BP NAME>** window. The **Create** option is not available if you do not have the permission to create a record.

You can no longer create records of other business processes in a business process log (except in the **Tasks** log and **Master Log - Business Processes** grouping node).

Example

You cannot create a Meeting Minutes business process record in an **Action Items** business process log.

4. When finished, select **Create**.

Manually Creating a BP Record from the Master Log

If you have permission to create BP records, you can go to the master log (click **Home**, and then select **Master Log - Business Processes** in the left Navigator).

Note

The name of the **Master Log - Business Processes** grouping node can be customized.

Auto-population and reverse auto-population are also supported for BP records that are created or edited in the master log.

Note

The default elements and fields (log layout, view, search, and so on) that are defined in the Standard Log determine the Standard user interface elements and fields of all logs.

The following BP records actions and functions *are not supported* in the master log:

- Import template
- Export template
- Permissions

There are specific conditions for creating workflow BP records and non-workflow BP records in the master log.

Creation conditions for *workflow* BP records:

- The BP must have an Active setup in the selected Project/Shell. If no active setups exist for the BP, the system will notify you.
- The selected Project/Shell controls the list of enabled workflow setups.
- You must be an assignee on the Create step of the BP, within the selected Project/Shell.
- If you save a BP record (during its creation) instead of sending it, the system lists the BP record drafts folder (go to the **Home**  tab, and then select **Drafts**) and not the master log.
- After you create a BP record, the system lists the BP record in both the:
 - Project/Shell BP log (Go to the shell tab, and switch to **User** mode. In the left Navigator, select **Logs**.)
 - Master log (Go to the **Home**  tab. In the left Navigator, select **Master Log - Business Processes**.)

Creation conditions for *non-workflow* BP records:

- The BP must have an Active setup in the selected Project/Shell. If no active setups exist for the BP, the system will notify you.
- You must be on the Creator list, for the BP, in the selected Project/Shell.
- After you create a BP record, the system lists the BP record in both the:
 - Project/Shell BP log (Go to the shell tab, and switch to **User** mode. In the left Navigator, select **Logs**.)
 - Master log (Go to the **Home**  tab. In the left Navigator, select **Master Log - Business Processes**.)

To create a BP record from the master log:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Master Log - Business Processes**, and then select a BP to open the BP log.
3. From the toolbar, select **+ Create** to open the **New Record** window.
4. Select a value for the **Select Business Process Origin** field.
The **Details** icon (), next to the **Select Business Process Origin** field drop-down list in the **New Record** window, lets you see a list of available options. The list on the left pane is displayed according to your permissions. After you select an entry from the list and click **Select**, your selected option becomes the value of the **Select Business Process Origin** field of the **New Record** window.
The **Select Business Process** field displays the BP that you have selected to create a record for.
The **New Record** window, for a BP, has a **Select Workflow** field which displays value if:
 - The BP is a non-Workflow BP.
 - There is only one Workflow schema available that you can choose.
5. When finished, select **Create**.

Single Record Business Process in Master Log

A single record BP is available at the shell level, and it lets you define additional shell attributes.

You can access the single record BPs, and their subsets, in the **Business Processes** functional node of the master BP log (**Master Log - Business Processes** grouping node), if you have permission. In the master log, you can access single record BPs and perform the following actions:

- View and edit the BP record information.
- Perform bulk edit on the BP record, across all shells.
- Define filtered views.

The **Business Processes** log (under the master BP log) displays the following information in columns:

- **Project Number**
Displays the shell number.
- **Project Name**
Displays the shell name.
- **Project Status**
Displays the shell status.
- **Title**
Displays the `uuu_title` value from the record.
- **Creator**
Displays the name of the creator of the record.
- **Record Status**
Displays the single BP record status.
- **Last Updated Date**

Displays the date that the single BP record was last modified.

Similar to other BPs in the master log, when you have permissions, you can perform the following actions (under the **Actions** menu):

- **Bulk Edit**
- **View**

Users or Groups with **View** permission can:

- View the single record business process, per project/shell, within the log.
- Update the record if they have the **Bulk Edit** permission.

All the Data Elements (DEs) that can be bulk updated are based on the integration settings.

When you bulk edit the single record business process records in the master log, you can update the common attributes across all projects/shells.

Additional Information about Single Record BPs, in Master Log

The following provides various scenarios related to the permissions granted to a user.

View permission for single record BPs, in master log will enable the user to view:

- Information about all the records across all shells. Viewing all the single record BPs in the shell hierarchy, is based on the highest level of the hierarchy.
- All the single record BPs across multiple shells, with **Active** and **On-hold** status. This will prevent the need to navigate to the individual shells for updating the single record BPs details.

Bulk Edit permission for single record BPs, in master log will enable the user to bulk update:

The default values of the single record BPs, for the selected shell instances, from the master log.

You can navigate to updated single record BPs, in the master log, and verify that the default or existing values have been updated.

To attain a hard copy, or electronic copy, of the single record BPs in the master log, you can generate HTML, PDF, or custom format of the records by using the **Print** option.

For the single record BPs in the master log, you can view the following source information about the record information under the following columns:

- Shell Number
- Shell Name
- Shell Status
- Creator
- Record Status
- Last Updated Date

The system will maintain the shell-level BP permissions, when displaying the single record BPs in master log. This ensures that you only edit the records that you are a member of its creators or record editors, per the pertinent list at the shell level.

You can:

- Define a custom view for the master log which includes filtering option by columns. This lets you view all the single record BPs according to your customized filtering and grouping.

- Use the **Find on Page** option in the master log, and filter the existing single record BPs.
- Use the **Search** option, based on the master log columns and filter the single record BPs that I want to see.
- Select multiple single record BPs, in the master log, select **Bulk Edit (Actions options)**, and see all the DEs that have been defined in the **Integration** tab with direction set as **Both**.
- Edit multiple DEs in the **Bulk Edit** window, and select **Update**. This causes all the selected DE values to be updated, across all shells.

Manually Creating a BP Record from the Tasks Log

1. Go to the **Home**  tab.
2. In the left Navigator, select **Tasks**.
3. From the toolbar, select **+ Create** to open the **New Record** window.
When you create a BP record:
 - The **Create** option is not available if you do not have the permission to create a record.
 - You can only create records of other BPs in the **Tasks** log and **Master Log - Business Processes** grouping node.
 - In a BP log (BPs within the **Master Log - Business Processes** grouping node or within the **Logs** node), you can only create records of that particular BP. For example, when you go to the **Master Log - Business Processes** grouping node to create a *Budget Change* BP record for your **Cost Management**, when you select **Create**, the system does not let you select any other type of BP record other than a *Budget Change* BP record.
 - You generate tasks for assignees on the next step, and the tasks appear in the assignees' logs.
 - The newly created BP record (including the status) appears in the BP log, as the BP record moves through the workflow.
4. Select a value in the **Select Business Process Origin** drop-down field.
The **Details** icon (), next to the **Select Business Process Origin** field drop-down field, in the **New Record** window, lets you see a list of available options.
The list on the left pane is displayed according to your permissions.
Select the option from the left pane, select an entry from the list (on the right pane), and click **Select**. The list of business process names includes those business processes that you have the "Create" permission for.
Your selected option becomes the value of the **Select Business Process Origin** field of the **New Record** window.
If applicable and if you have the "Create" permission, select a workflow from the **Workflow** drop-down field.
5. In the **Select Business Process** field, select the drop-down list and select a BP that you want to create a record for.
The **New Record** window, for a BP, has a **Workflow** drop-down field which displays a value *if the BP is a non-Workflow BP*.

Note

There is only one workflow schema available that you can choose.

6. When finished, select **Create**. The BP record is now created in the appropriate log.

Creating a BP Record by Copying an Existing BP Record

You can copy an existing business process record to create another business process record of the same type.

The original data in all data entry fields, including line items (if applicable), will be copied. For most business processes, you will have the option to copy attachments to the new form. Other attached information, such as general comments, linked records, and linked Mailbox, will not be copied.

The copied record will reflect the data found in the original record. Auto-populated fields will not be refreshed or recalculated.

Note

If the value in a BP picker does not meet the filtering conditions that have been configured for the created BP, the system displays an error message and does not copy the record.

For non-workflow BPs, copying a record results in creation of a record and not creation of a draft.

In addition, you can restrict the line items to be copied and specify other copy options by using the **Copy with Conditions** copy option. The **Copy with Conditions** lets you:

- Copy specific (rather than all) line items
- Include or exclude attachments
- Retain or remove references to records auto-created from an upper form
- Retain or remove references to records auto-created from line items (from all tabs)
- Include linked records

The above options are not available for Payment Applications.

Business processes that have been auto-created and are currently in the Initiation step (prior to the Create step in the workflow) cannot be copied. You cannot copy these business processes until the record has been sent or is in a "finish edit" status.

To create a business process (BP) record by copying another BP record in the *Company BP log*:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Company Logs**, and then select a BP type to open the BP log.
3. Select the gear menu () next to the record that you want to copy and select one of the following options:
 - Copy with Attachments

- Copy without Attachments
4. Follow the prompts to complete copying your record for use.
- To create a BP record by copying another BP record in the *Project/Shell BP log*:
1. Go to the shell tab, and switch to **User** mode.
 2. In the left Navigator, select **Logs**, and then select a BP type to open the BP log.
 3. Select the gear menu (⚙️) next to the record that you want to copy and select one of the following options:
 - Copy with Attachments
 - Copy without Attachments
 4. Follow the prompts to complete copying your record for use.

Note

- You cannot create a new BP record by copying another BP record in the **Tasks** log.
- You cannot copy attachments for document BPs. Line items of records are treated as attachments, so details of line items and forms are not copied to document-type BPs.

Reset on Copy of Record

- A reset only works on Workflow BP records.
- If the Action form associated with the "Creation Step" of record has data elements that have "Reset" property, then after copy the system resets the values of these fields.
- If the reset is done on an element that has a data set of value/label pairs, and if there is a default value specified, then the default value is displayed.
- For fields with Data Picker as auto-population source, if the value of the Data Picker (as auto-population source) has been reset, then the system resets the value of the field. This means that the auto-population of the form fields from a Data Picker will change if the Data Picker value is reset.
- After a reset is done, any formula that depended on the Reset field will be re-evaluated.
- If a default value has been specified for a Data Element with Reset property, this default value will be seen in the Upper Forms after the Reset operation has been performed. This only applies to Upper Forms. Reset does not work for Line items because the system treats a reset operation as though the user has edited the record and saved it as a draft.

Creating Business Process Records Across Projects/Shells From the Master Log

As a company-level user or partner user, you can create and upload a batch of business process (BP) records across projects/shells from a Microsoft Excel spreadsheet (.xlsx or .xlsm) if you have:

- Access to the Master Log
- **Allow Bulk Creation** permission
The **Allow Bulk Creation** permission, although visible for all BPs, is supported for only:

- Simple BPs such as Action items, Project Note, and Field Observations
- Generic Line Item BPs such as Daily Reports, Warranty
- Generic Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
- Transfer Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
- Base Commit (Line item with CBS Code - Create SOV of General Spends and Payment Applications)
- Change Commit BPs (Line item with CBS Code - Update SOV of General Spends and Payment Applications)
- General Spends (Invoices)

Note

- * It is recommended that you use this process to create several records in bulk across projects/shells. It is a scheduled high-priority background job and the job can be processed based on other background jobs in the queue.
- * Do not use this process to update *existing* BP records.

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

Procedure

To create business process (BP) records in bulk across projects/shells in the Excel spreadsheet:

1. Create the business process records in the Excel file.
See [Creating the Excel File for Bulk Creating BP Records](#).
2. Import the Excel file into Unifier.
See [Importing the Excel File for Bulk Creating BP Records](#).
3. View the import history details of the bulk creation process.
See [Viewing Bulk Create Import History Details](#).
4. View error details of business process records, if any, associated with the bulk update process.
See [Viewing Error Details of the Bulk Create Import Process](#).

5. Resolve the errors and re-import the business process records.

See [Reusing the Error File Spreadsheet For Bulk Create Import Process](#).

Creating the Excel File for Bulk Creating BP Records

When you use Bulk Create or Bulk Update, you start by exporting the BP design structure to a Microsoft Excel or CSV file and then populating the required fields. If you leave a Data Picker Data Element (DE) field blank that is configured to Auto Populate, the system completes the field when you run a Bulk Create; however, it does not complete the field when you run a Bulk Update. To reduce confusion and maintain consistency for both Bulk Create and Bulk Update, the system uses the Excel or CSV file to populate the Data Picker field if the field is excluded from the Integration Form for the BP design.

You must have **Allow Bulk Creation** permission to complete this task.

To bulk create business process records across projects/shells in the Excel spreadsheet:

1. Select the **Home** (🏠) tab.
2. In the left Navigator, select **Master Log - Business Processes**, and select a specific business process.
 - Simple BPs such as Action items, Project Note, and Field Observations
 - Generic Line Item BPs such as Daily Reports, Warranty
 - Generic Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Transfer Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Base Commit (Line item with CBS Code - Create SOV of General Spends and Payment Applications)
 - Change Commit BPs (Line item with CBS Code - Update SOV of General Spends and Payment Applications)
 - General Spends (Invoices)
3. Open the **Business Process** log in the right pane. For example, open the **Action Item BP** log.
4. Download a Shell Details Excel file to identify the projects/shells that will contain the new BP records you plan to create:
 - a. From the toolbar, select **Actions**, select **Download**, and then select **Shell Details**.

Note

If the Integration form is not defined for your business process, the **Actions** menu will not display additional options such as Download and Import.

- b. Download and open the ShellDetails.xlsx file.

For more information on the file contents, see [Microsoft Excel File Format of Shell Details File](#).

Note

The ShellDetails.xlsx file contains a list of all active projects/shells you can use to create BPs across projects/shells.

5. Download the template for creating BP records:
 - a. From the toolbar, select **Actions**, select **Download**, and then select **Template for Record Creation**.
 - b. Locate the downloaded file.
6. Open the downloaded <Selected BP Log Name>_bulkcreate.xlsx file. For example, open the ActionItem_Bulkcreate.xlsx file.

For more information on the downloaded file format, see [Microsoft Excel File Format for Bulk Creating BP Records in the Master Log](#).

7. Add BP records in the Excel file as follows:
 - a. In the **Main Form** tab of the Excel file, enter the details of each BP record.

Note

The combination of the **Shell Number** and **Record Sequence Number** must be unique for each BP record.

- b. (Optional) To add line items to a BP record:
 - i. Select the **Line Item** tab or any additional tab that may display based on the BP design in the Excel file.
 - ii. Copy the **Shell Number** and **Record Sequence Number** values from the **Main Form Tab**.
To add multiple line items to the same BP record, use the same combination of **Shell Number** and **Record Sequence Number**, but with sequential values in the **Line No.** field.
 - iii. In the **Line No.** field, enter a sequence number for each line item.
 - iv. Enter details for each line item.
 - c. Repeat the previous step as needed to add multiple line items to the same BP record.
8. Repeat previous step to add BP records in multiple projects/shells.
 - Use the unique combination of the **Shell Number** and **Record Sequence Number** specified in the **Main Form** tab in all subsequent tabs.
 - If you rename any tabs with line items, the data in those tabs will not be processed.
9. Save the Excel file (.xlsx or .xlsm).
10. Import the data created in the Excel spreadsheet into Unifier.

See [Importing the Excel File for Bulk Creating BP Records](#).

Importing the Excel File for Bulk Creating BP Records

Each Excel file (.xlsx or .xlsm) for import must not exceed 100,000 rows of record and line-item data, including the header and blank rows. It is recommended to use Excel import to create thousands of records in bulk across projects. It is a scheduled high-priority background job and the job can be processed based on other background jobs in queue. Ensure you do not use

this import process to update existing records. A maximum of 100,000 rows (including headers and blank rows) can be included in the imported file.

For General Spends BP, import General Spends records using a predefined General Spends Import Template. Ensure the following fields are completed for each record:

- Main Form Worksheet: Shell Number and Record Sequence No. in the Main Form worksheet
- Line Item tab worksheet: Required fields like Ref No., Cost Code, and CBS Code

After [Creating the Excel File for Bulk Creating BP Records](#) across projects/shells, import the Excel file to add the new BP records in Unifier as follows:

1. Select the **Home** () tab, and switch to **User** mode.
2. In the left Navigator:
 - a. Select **Master Log - Business Processes**.
 - b. Select the specific business process where the BP records are to be imported. For example, select the **Warranty** business process.

The **Allow Bulk Creation** permission, although visible for all BPs, is supported for only:

 - Simple BPs such as Action items, Project Note, and Field Observations
 - Generic Line Item BPs such as Daily Reports, Warranty
 - Generic Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Transfer Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Base Commit (Line item with CBS Code - Create SOV of General Spends and Payment Applications)
 - Change Commit BPs (Line item with CBS Code - Update SOV of General Spends and Payment Applications)
 - General Spends (Invoices)
3. In the right pane:
 - a. From the toolbar, select **Actions**, and then select **Import**.
 - b. In the **Import Records** drawer, drag and drop the saved Excel file, and select **Import**.
 - To avoid data format validation issues, the logged-in user's preferences are used instead of the auto-creation user's preferences.
 - Business process (BP) records will be created using the Creation Form of the workflow selected in the **BP Setup** of each project/shell instead of the Integration Form.
 - Required fields in the downloaded template file are determined by the Integration Validation Form.
4. To review status of the imported data, perform any of the following actions:
 - In the displayed message, select **View Import History**.
 - From the toolbar, select **Actions**, and then select **View Import History**.
 - In the email notification you receive, select the link.
 - RAP

- Autocreate
- Cashflow commit
- Roll up to SOV Sheet
- Roll up to Cost Sheet
- Validate remaining balance if formula defined in SOV sheet.

File Validations

When the import is initiated, the file is checked for the following:

- If the Excel file has the same column structure as defined in the Integration tab in Main Form or Line Item worksheets
- If the **Shell Number** and **Record Sequence No.** columns have been removed, renamed, reordered, or duplicated in the **Main Form** tab
- If the **Shell Number**, **Record Sequence No.**, and **Line No.** columns have been removed, renamed, reordered, or duplicated in the **Line Item** tabs
- Duplicate rows in the **Main Form** tab with the same **Shell Number** and **Record Sequence No.**
- If the **Record Sequence No.** is a non-integer or a random string

Data Validations

When the import is initiated, the data is checked for the following:

- If the Business Process, Integration settings, or default workflow are not set up in the specified project/shell
- If the **Shell Number** is not valid in the **Main Form** tab.
- If the project/shell numbers specified in the **Line Item** tabs do not exist in the **Main Form** tab
- If the project/shell numbers are not valid in the **Line Item** tabs
- If project/shell numbers with **Inactive**, **View-only**, or **On-hold** statuses are specified
- If required fields have been specified
- If invalid values have been specified for data elements
- If form validation rules are satisfied
- If dynamic data set behavior data elements are updated via import data and behavior element is read-only based on master value
- If provided, the BP Picker value meets the configured query conditions

Viewing Bulk Create Import History Details

If you have the **Allow Bulk Creation** permission, you can view the import data history details for the files containing BP records across projects/shells that you imported into the Master Log.

To view the import details history:

1. Select the **Home** (🏠) tab, and switch to **User** mode.
2. In the left Navigator:
 - a. Select **Master Log - Business Processes**.

- b. Select the specific business process where the BP records are to be imported. For example, select the **Warranty** business process.
 3. In the right pane:
 - a. From the toolbar, select **Actions**, and select **Import History Details**.
 - b. Review the following information in the import history:
 - **Uploaded File:** Select to download the Excel file that was uploaded originally.
 - **End Date:** The end date and time of the import process.
 - **Start Date:** The start date and time of the import process.
 - **Records Processed:** The total number of BP records in the **Main Form** worksheet.
 - **Records Imported:** Select to download an Excel file displaying the project/shell name, shell number, record number, and the title of the records that were created successfully. The file name is generated in the format, *Imported_<Uploaded File Name>.xlsx*.
 - **Failed Records:** Select to download an Excel file to review the list of failed records. The file name is generated in the format, *Failed<Uploaded File Name>.xlsx*.
 - **Status:** Displays the job status of each imported file as any of the following:
 - **Not Started:** Indicates the import is yet to commence.
 - **In Progress:** Indicates the import job is in process.
 - **Completed Successfully:** Indicates all records and line item data have been successfully created.
 - **Completed with Errors:** Indicates records were partially created or failed to create at least one record.
 - **Aborted:** Indicates the job could not progress due to system issues or server failures.
 - **Failed:** Indicates record is not created.
 - **Requested By:** The username of the logged-in user who initiated the bulk create import job.

Viewing Error Details of the Bulk Create Import Process

If you have **Allow Bulk Creation** permission, you can view the import history details for the files you imported to create BP records across projects/shells from the Master Log node.

The **Import History Details** window displays a log of all the files imported and their outcomes for a business process.

If the import process is successful, the **Job Status** indicates *Completed Successfully*.

If the import process is *Completed with Errors*, you can either download the input file or the error file to correct the data and re-import.

If the import process is *Aborted*, you can continue importing the remaining data.

To view the outcome of the import process:

1. Select the **Home** (🏠) tab, and switch to **User** mode.

2. In the left Navigator:
 - a. Select **Master Log - Business Processes**.
 - b. Select the BP node where you want to import the BP records. For example, select **Master Log - Business Processes**, and select **Warranty**.
3. In the right pane:
 - a. From the toolbar, select **Actions**, and select **Import History Details**.
 - b. If the import process is *Completed with Errors*, select that row to perform any of the following actions:
 - Download the *input file* using any of the following options:
 - Select the **gear menu** () of the row, and select **Download Input File**.
 - From the toolbar, select **Download** () , and select **Input File**.

Correct the data in the input file and re-import as outlined in [Updating BP Records in Excel for Bulk Update From Business Process Log Node](#).

 - Download the *error file* using any of the following options:
 - Select the **gear menu** () of the row, and select **Download Error File**.
 - From the toolbar, select **Download** () , and select **Error File**.

Correct the data in the error file to re-import as outlined in [Reusing the Error File For Bulk Update Import Process](#).

 - Select **View Error Details** () to review a list of erroneous records in the **Import Error Details of <filename>** window. - c. You can also perform any of the following actions:
 - Select **Refresh** () to refresh the **Import History Details** window.
 - Select **Search** () to open the **Search** window.

Reusing the Error File Spreadsheet For Bulk Create Import Process

If the bulk create import process is *Completed with Errors*, an error file (.xls or .xslm) is generated with a list of erroneous records identified by the import process. You can resolve these errors and reuse the error file to re-import the records.

Note

You should have **Allow Bulk Creation** permission to import or re-import BP records using a Microsoft Excel spreadsheet (.xlsx or .xslm) from the **Master Log** grouping node.

The generated error file adheres to Error File Spreadsheet Format of Bulk Create Import Process by default.

To reuse the error file for re-import:

1. In the **Main Form** tab, resolve the errors identified for each BP record.

2. In the relevant **Line Item** tabs, if any, resolve errors corresponding to the BP record identified in the previous step.
3. In the **Action** column, select **Update** for each record. Otherwise, by default, the line item will not be updated when set to a *Blank* value.
4. After resolving all errors, delete **Column A** to clear all errors identified in the **Main Form** tab and relevant **Line Item** tabs.
5. Save the modified error file to prepare for import.
6. Import the error file as described in [Importing the Excel File for Bulk Creating BP Records](#).

Copying a BP Record in the Master Log

To create a BP record by copying another BP record in the *master log* (**Master Log - Business Processes** node):

Note

- The name of the **Master Log - Business Processes** grouping node can be customized.
- You cannot copy attachments for document BPs. Line items of records are treated as attachments, so details of line items and forms are not copied to document-type BPs.
- If the value in a BP picker does not meet the filtering conditions that have been configured for the created BP, the system displays an error message and does not copy the record.

1. Go to the **Home**  tab.
2. In the left Navigator, expand the **Master Log - Business Processes** grouping node.
3. Select a BP, and open the BP log.
4. Select the *gear menu* () next to the record that you want to copy, and select one of the following options:
 - Copy with Attachments
 - Copy without Attachments
 - Copy with Conditions
5. Follow the prompts to complete copying your record for use.

Note

You cannot create a BP record by copying another BP record in **Tasks** log. (Go to the **Home**  tab. In the left Navigator, select **Tasks**.)

For more information, see [Restricting Line Items by Using Copy with Conditions Option](#).

Attaching Form Documents

The Document Picker controls how specific documents are uploaded, managed, and reviewed for workflow and non-workflow business processes (BPs). Using this feature, you can provide documents that must be reviewed and approved as part of a BP instead of uploading them separately to the Attachments tab. For example, if you prepare a Pre-Award Checklist BP record, you might require a vendor to submit a set of required documents for review.

If the BP setup supports the Document Picker, you can upload a specific document from your local system directly into a designated field on the upper form. (It does not support adding the document from the Document Manager.) As a creator of a BP record, you can open, download, clear, or review the document after uploading it. After the record is submitted, the Attachments tab lists these documents in a Form Documents group, which is separate from the other documents listed in Published Attachments and Unpublished Attachments. The document is also published to the Document Manager. If you need to revise the existing file, you must remove the current one and upload a new one.

 Note

You cannot use the *gear menu* () on the Attachments tab to revise, remove, or rename Form Documents.

Additional Information About Form Documents and the Document Picker

- The picker is currently supported with Line Item, Cost, Simple, and Project/Shell Creation BPs.
- Depending on the design, the BP supports up to 10 Document Picker fields per BP form. You must select one document at a time. You cannot select multiple files for simultaneous upload.
- The picker fields might be set as Required, Editable, or Read Only. Additionally, the fields might be marked as Reset if the BP is used in a copy or autocreation process.
- Again, depending on the design, the documents can be included as attachments in workflow notifications.
- The sizes and types of documents that you can upload must comply with the company-level file size and extension restrictions.
- If the picker is editable and you have permissions to edit the form, files can be uploaded regardless of the BP design's attachment-related properties.
- If the picker is visible on a form and you have permissions to view the form, attached files can be viewed regardless of BP restrictions related to viewing and downloading attachments.
- All actions, including uploading and removing files, are recorded in audit logs.
- Security settings and restrictions for email notifications and download permissions are enforced.
- If the attachment count is used in the design, the picker files are included in the count.
- If a Publish Path location is used in the design, documents are archived to the specified location.
- Saving, Sending, or Submitting a BP record:
 - For Workflow BPs, all documents selected by using the Document Picker are committed to the record only after you send or submit it to the next step in the workflow. For example, if you select a document but close the form without saving it, the document is saved in your Task Draft, but it is not committed to the record. If you

select Undo Accept Task, the picker value and associated document are cleared and not committed to the record.

- For a Non-workflow BP, all documents selected by using the Document Picker are immediately committed to the record, prior to saving or submitting the record.
- The picker does not support:
 - Duplicate files between the Document Picker and standard attachments.
 - Integration with Microsoft Excel or REST services.
 - Use with eSignatures and advanced formulas.

To add Form Documents to a BP record during the creation process:

1. In the **Create New <BP NAME>** window, locate the **Required Documentation** section.
2. To upload a document file, complete one of the following steps:
 - Select a required field. In the **Open** dialog box, locate and select the applicable file, and select **Open**.
 - From your local file system, drag and drop the applicable file to the corresponding required field.

The uploaded files are listed in the **Form Documents** group on the **Attachments** tab in the right pane.

3. If you uploaded the wrong document in any of the fields, select the x in the applicable field to remove the document, and upload the correct document.
The system removes the original document from the **Form Documents** group and adds the new one.
4. Continue completing the new record.

Visibility of Properties Tabs in BPs

In a company, a shell, or a project (**Master Log**, **Company Logs**, **Single-Record BP Log**, **Portal BP Log**, and **Logs** nodes), when you open a business process and select a record, the window displays the properties pane with a series of applicable tabs (record properties) such as **Record Details** tab, **Notifications** tab, **Record Properties** tab, **Attachments** tab, **Permissions** tab, and so on.

The Record Properties tab lets the administrator define restrictions within the BP setup on who can view specific tabs. This rule also applies to the following nodes:

- **Drafts**
- **Tasks**

For the **Attachments** tab, if you have restrictions to download, you will only be able to view or access the attachment; you cannot download or save the attachment to a local system.

Auto-Creating BP Records

There are different ways of auto-creation:

1. Spawning a record at a particular point in a workflow (S-Step)
2. Auto-creating a record or line item when it reaches a particular condition or frequency (I-Step)
3. Using a template that is scheduled to auto-create records

For auto-creating BP records in S-Step or I-Step, you must reset on creation step.

① Note

- For auto-created records, the system will populate the due date time for the auto-created record from the source record instead of copied record, if the following conditions apply: the due date element in the record is a formula (including today), and the source record is copied from another record, and if there is a time gap between the source and the copied record.
- Line items will not be copied if either the source tab name or destination tab name that displays in the Auto-creation Processes - Upper or Detail setup is incorrect. If you update a source or destination tab name of a BP from the **Item Logs** navigation menu, ensure that you verify the tab name mapping for autocreation.
- When the system auto-creates a project-level Cost- or Commit-type business process (BP) that contains an upper (main) form reference to a company-level commit-type BP record (such as a Blanket Purchase Order [BPO]), the value is copied to the destination record if a matching DE exists. However, if a BPO Lineitem Picker value existed in the detail form of the source record, that value is not copied over to the line items of the auto-created record.
- Because a Summary Payment Application (SPA) BP contains two sub-tabs—Line Item and Cost Breakdown—on the Detail Form, the system does not support I-Step or S-Step auto-creation of line items from a non-SPA BP to an SPA BP.
- If the Completion Policy for a step is set to **All-Consensus** and **Auto Creation** is enabled, automatic creation of the applicable items begins after all assignees have agreed on the action.
- If the value in a BP picker does not meet the filtering conditions that have been configured for the created BP, the value of the BP picker is not copied and is left blank. Additionally, in the create step form of the created BP, any data elements that are configured to auto-populate from the picker are cleared.

Reset on Creation Step

The following rules apply:

- If the Action form associated with the Creation Step has Data Elements (DEs) that have Reset property, the post auto-creation the values of these fields will be reset.
- Regardless of whether the auto-created record is in I-Step or not, the values must get reset.
- Fields with auto-population source, "Data Picker" whose value has been set as reset must get reset.
- After a reset is done, any formula that depended on the Reset field will be re-evaluated.
- Reset will work for Workflow BPs only (This is an existing limitation).
- If a default value in the reset field has been specified for a DE that has reset property, this default value will be seen in the Upper Forms after the Reset operation has been performed post auto creation. This will be applicable to Upper Forms only.

Note

Reset will not work for line items because the system will treat a reset operation as though the user has edited the record and saved it as a draft.

Auto-Create a BP Record from a Workflow Step (S-Step)

You can use design a business process form that automatically creates a new BP record, after reaching a designated status in a workflow (for example, approved).

The user who owns the original record becomes the owner of the auto-created record. After being created, the new record is sent automatically to the next step in the workflow if it is a workflow business process. Non-workflow business process records will reside in the log.

Note

Business processes are not auto-created in projects/shells that have the **View-Only** or **Inactive** status.

The original record can be set up to automatically populate upper form (header) information on the new record, provided the data elements of the upper form fields are the same on both records. That is, for example, if a **Description** field using the same data element appears on both records, the text in the original record can be entered automatically into the new record.

Auto-Create a BP Record, or Line Item, Based on Conditions or Frequency

You can design a form that automatically creates a new record, line item, or planning item if certain criteria are met. The criteria can be:

- A **condition**, such as a dollar amount.
- A **frequency**, such as a daily or weekly time frame.
 - Only for a record
 - Line items cannot be created with a frequency trigger.
- Both a **condition** and a **frequency**.

When the business process, planning item, or line item reaches the condition or frequency trigger(s), the form will automatically create a new record and send it to an **Initiation step (I Step)**. These forms contain a **Creator** field to activate the auto-creation, either automatically, or manually. If you have **Modify Ownership** permission on the source record, you can auto-create new records or line items. You can also override conditional auto-creation and immediately invoke the auto-creation manually if necessary.

Note

If the line items have been grouped (as part of the administrator's business process setup), you can manually invoke the auto-creation; however, only those line items in a status of "pending creation" will be grouped.

Bypassing the I Step

During business process setup, the administrator can set up the auto-created workflow business process to skip the initiation step and send the record directly into the workflow, where it normally arrives at the first step after the Create step (or the first step in a conditional routing). For a workflow business process, the administrator specifies the schema, the step in the workflow that the record should use as its first step, the workflow duration, and the name of the person or group who will be the owner of the auto-created record. When the record is created, data will roll up to manager sheets at the appropriate status; however, if the system encounters errors or invalid data, the record will remain at the Create step, and roll-ups will not occur until the user resolves the errors.

For a non-workflow business process, the administrator can set up an auto-created record to skip the initiation step. In this case, the system creates the non-workflow business process record and lists it in users' logs in either:

- Edit mode. When the record is in edit mode, you can see the **Submit** button.
- Read-only mode. When the record is in read-only mode, you can see the **Edit** button.

If it appears in edit mode, the user will have to open the record and add or correct information on the form. If it appears in read-only mode, the record is considered complete, and data will roll up to manager sheets.

Note

Business processes are not auto-created in projects/shells that have the **View-Only** or **Inactive** status.

Your administrator sets up the auto-creation by specifying:

- The name of the person or group who will be the owner of the auto-created record.
- (For workflow business processes) The workflow schema to use.
- (For workflow BPs) Which step in the workflow the record should use as its first step
- (For workflow BPs) The workflow duration
- The criteria that will trigger the auto-creation
- Whether attachments to the record or line item will be included when the record is auto-created
- Whether records that were linked to the creating record should also be linked to the newly created record, or to the new line item
- Whether the I Step should be bypassed when a new record is auto-created
- Whether the line items from line item tabs should be grouped

Delete Error Lines

The **Delete Error Lines** option appears in the **Errors and Warnings** window when you finish editing (or send) a BP when the BP line items are failing validation errors (such as required field check, and so on). The Delete Error Lines option lets you delete the faulty BP line items and route the BP record to the next step, if the BP line items are not needed.

Note

After you delete the faulty BP line items, the system removes them permanently without providing an option to access them.

If line item auto-creation fails

If the line-item creation is auto-created with a condition-based query (that is, not manually), the system will send an email notification to the business process owner. The email will contain location information so that the recipient can see where the auto-creation originated and where it failed. Following are conditions under which line item creation can fail:

- The To field is empty. This is possible if the assignee becomes inactive after the schedule is created or if a group is empty.
- The CBS code is invalid, which can happen if the CBS code becomes inactive after selecting in the template.
- The rules engine validation fails.
- For payment applications, the associated SOV is locked, either by the payment application record in routing, or by a change commit with a negative line item value. See [Payment Application Business Processes](#) for details.

Note

If the destination business process does not exist or has not been imported into the system, the location specified in the email notification might be non-existent or incorrect.

Bypassing the Initiation Step (I-Step)

During the Business Process (BP) setup, the administrator can set up the auto-created workflow BP to skip the **Initiation** step and send the record directly into the workflow, where it normally arrives at the first step after the **Create** step (or the first step in a conditional routing).

Workflow BP

For a workflow BP, the administrator specifies the workflow schema to use, the step in the workflow that the record should use as its first step, the workflow duration, and the name of the person or group who will be the owner of the auto-created record. When the record is created, data will roll up to any applicable manager sheets (for example, the cost sheet) at the appropriate status; however, if the system encounters errors or invalid data, the record will remain at the Create step, and roll-ups will not occur until the user resolves the errors.

Non-workflow BP

For a non-workflow BP, the administrator can set up an auto-created record to skip the initiation step. In this case, the non-workflow BP will be created and will appear in the users' BP logs in either an "edit" or "finish edit" mode. If it appears in an "edit" mode, the user will have to open the record and add or correct information on the form. If it appears in a "finish edit" mode, the record is considered complete, and data will roll up to any applicable manager sheets.

Additional information about bypassing the I-Step

In the following scenarios, if the auto-creation of a change commit BP is set to "Bypass I-Step," the auto-created record remains in I-Step and the element "refid" remains blank:

- If the source BP form has no BP Data Picker, or BP Picker, pointing to the Change Commit "refid" Base Commit BP.
- If the source BP form has more than one BP Data Picker, or BP Picker, that satisfy the conditions needed to populate "refid" (map to the Change Commit "refid" Base Commit BP).
- If the conditions on "refid" picker are not satisfied by the value from the source BP, for example, the "refid" picker only allows an "Approved" Base Commit, but the source BP sends a "Pending" record.
- If the value from the source BP that is mapped to the "refid" element is set as: <null>.
- When copying the Line Items form a source to the destination record:
 - The source Detail form does not contain the element: `uuu_sovlinum`
 - The destination Change Commit Detail tab contains the element: `uuu_sovlinum`

Note

In this scenario, the Line Items will be copied from the source to destination, and the `uuu_sovlinum` field will be set as blank. All other fields will be mapped from source to destination Detail form.

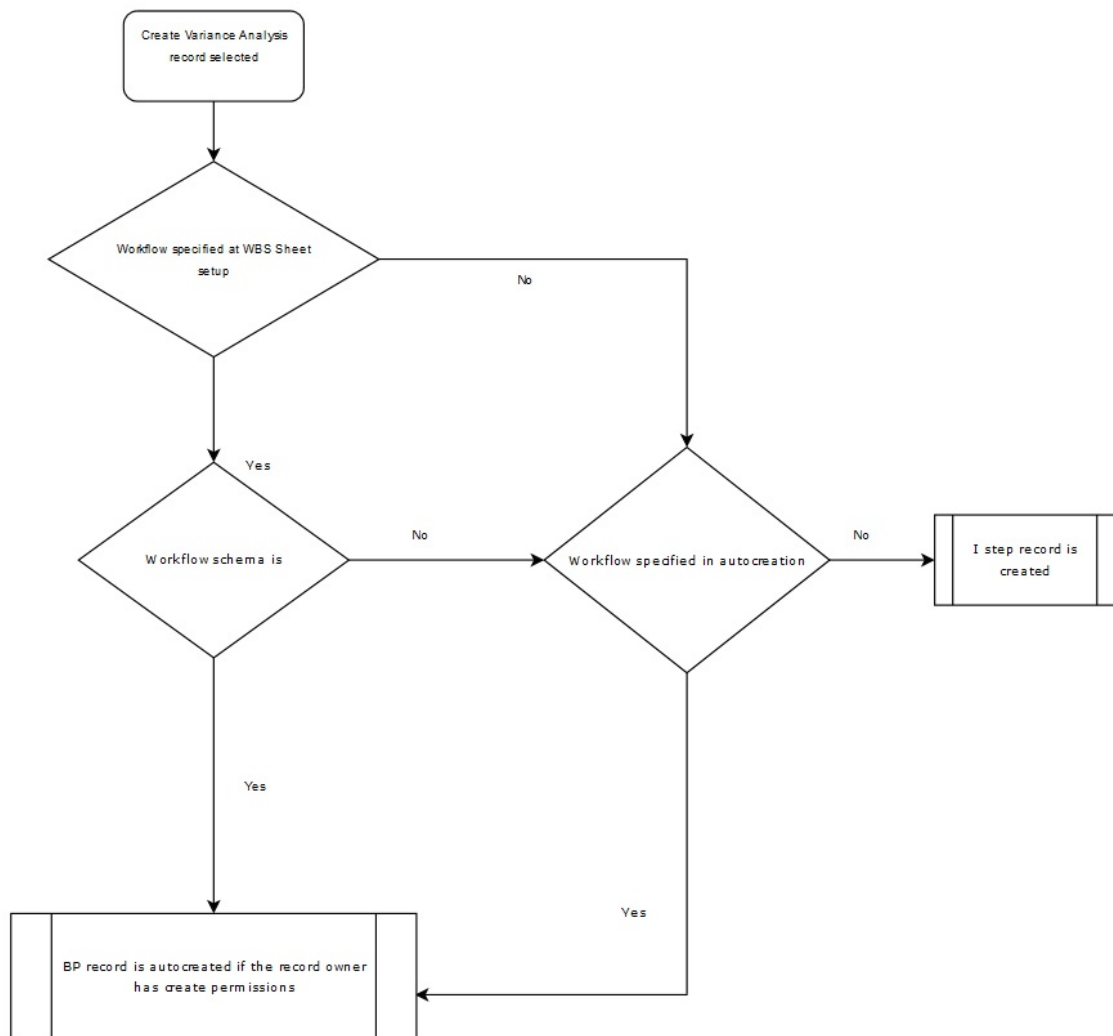
In the above scenarios, because the "refid" is blank, no Line Items get copied into the "Standard" tab of the auto-created Change Commit record.

Note

If any other tab in the "Change Commit" is configured to copy Line Items from the source, those Line Items are copied.

You will be able to auto-create a "Change Commit" type BP from any type of BP Upper or Detail form.

For Workflow BP, when By Pass I-step selected, the following process takes place:



Examples of Auto-Creation

You can use the auto-creation feature to manage events such as the following:

- **Line Items of Lease Business Process generating Payment Request BP records:** A lease business process with a pregenerated payment schedule can use this feature to generate Payment Request records at appropriate days in advance of the payment due date so that the record can be routed for approvals.
- **Preventive Maintenance BP line items generating Work Order BP records:** A Preventive Maintenance type business process (Preventive Maintenance Book - PM Book) can be set up to create Work Orders for assets at periodic intervals depending on the service needs of the asset.
In the Preventive Maintenance Book (PM Book), for:
 - Floating Line Items holding non-terminal work orders, you cannot edit the following DEs:
 - * Family Identifier
 - * Line Item Status
 - * Schedule Type
 - Fixed Line Items holding non-terminal work orders, you can edit the following DE:

* Line Item Status

- **Create Action Items from Meeting Minutes:** Auto-creation feature can be used to create and assign tasks to different people creating a fully automated flow for routing of action items from meeting minutes records that have lines items. For example, each line item Action Item could auto-create a separate Action Item records from the meeting minutes record.
- **Create a planning item from a business process:** You can create a planning item from a business process when the business process, with its details (such as expense estimates, owners, and so on) has been approved.
- **Add a new line item to an existing record:** You can add a line item to an existing business process. For example, a submittal registry record could contain line items that auto-create separate submittal business process forms for each contractor on a project. In the course of work, you might realize that the original submittal registry record is missing a submittal for an architectural drawing. You could submit a new submittal business process form that would add the missing architectural drawing submittal to the original registry record.

For Line Item Creation

- You cannot create a line item on a record that is at a terminal or terminated status.
- If you create a line item on a non-workflow cost type business process, the cost amount(s) will roll up to the Cost Sheet.
- If you create a line item on a workflow cost type business process, the cost amount(s) will not roll up to the Cost Sheet.

Exceptions for Auto-Creation

You cannot auto-create Payment Application business processes and General Spends business processes because these business processes use the Schedule of Values (SOV), from a Cost type business process.

You cannot auto-create a business process by using a Lease business process because the line items of the Lease business process contain several system-defined data elements that cannot be automatically included in other types of business processes.

Rules for Checking Conditions for Auto-Creation

There are rules that govern when the Unifier scheduler checks the conditions for auto-creation, and then if these conditions are met, it auto-creates the BP.

Rule 1

The Company Administrator selected the Enable Auto creation checkbox for BP Creator when the auto-creation was set up.

If the Enable Auto creation checkbox is selected, it implies system-based auto-creation, and the BP Creator Select button is not displayed in User mode.

For non-workflow BPs: The condition check occurs on **Submit**. If condition met, creates record and shows the link for the auto-created BP. If no condition is specified auto-creates records and shows the link for the auto-created BP.

For workflow BPs: The condition check occurs on **Send**. If end step reached and Action Form is used on End Step, the condition check occurs on **Save** instead of **Send**. If condition met,

creates record and shows the link for the auto-created BP. If no condition specified blindly creates records and shows the link for the auto-created BP.

If the Enable Auto creation checkbox is not selected, it implies manual creation.

For non-workflow BPs: The condition check does not occur on **Submit**.

For workflow BPs: The condition check does not occur on **Send**.

BP Creator - Select button shown in User mode so that the user can create the business process manually. If selected, creates BP record without checking any condition, and creates record and shows the link.

Rule 2

Date Trigger Condition check: Are checks on the specified Date Data Element. For workflow or non-workflow BPs, this setup implies that the condition checks are done on a date instead of Finish Edit/Send, if a link does not exist next to BP creator element. If a link exists, it will not create any new records for that BP Creator element in the chosen line item of the record.

Rule 3

Trigger Condition check based on frequency (Periodic): Are checks on frequency for BP Creator elements with Enable Auto creator checked. If specified, these are the only time condition checks are done. This overrides any other checks for date. This is the only method to create multiple records even if a link exists and a record has already been created for this BP Creator element. The link created using this will always point to last auto-created record.

Auto-Creation in Operation

Upon auto-creation, the following are *not* copied to the auto-created Business Process (BP) from the source BP:

- Line item status
- Creator fields
- Hidden tab data

When a line item is auto-created (by using the line item auto-creation logic), the values in the fields on the line item that are based on a data picker in that line item will not be auto-populated.

These elements are copied from the source BP to the auto-created BP on certain conditions:

- Configurable Manager codes and CBS codes are copied from the source business process to the auto-created business process if the codes are available in the destination shell.
- User/Group Picker values are copied only if they are available in the destination shell.
- **Transaction currency** field is copied if that currency is available in the destination shell.

Change Commit

If you configure a BP Creator field to auto-create a "Change Commit," during the runtime the field will behave the same way as any other BP Creator field. Also:

- A "Change Commit" type BP always holds a required BP Picker element (refid) on the BP Upper form. In uDesigner, this BP Picker is configured to point to Base Commit BP.

- During the auto-creation of a "Change Commit," the required BP Picker element (refid) on the BP Upper form gets populated with the value of the same BP Data Picker, or BP Picker (the source BP). This value:
 - Resides on the same form as the BP Creator, and
 - Points to the same Base Commit type BP as the BP Picker element (refid) is configured to point to in uDesigner.

Attachments

Including attachment in the **Auto Creation** tab of the BP setup enables the copying of attachments from both the upper and detail forms.

When a record is auto-created and receives Line Items from a reference record during the auto-creation, the Line Item attachments transfer from the source reference record.

If the option of including attachments in a BP setup BP creator configuration is checked, the source Line Items from a "Referenced" picker will be copied into the auto-created record with attachments. This applies to BP creators on upper as well as detail form.

If an attachment existing in the Line Items of the Source BP record needs to get copied to the upper form of the destination BP record, the project administrator can specify the levels for the transfer of attachments: Upper form to Upper Form, Line Item to Upper Form, and so forth.

Example

An operations manual (existing as an attachment) in the Line Items of the Source BP of Preventive Maintenance Book (PM Book) must be seen as an Upper form attachment on the auto created BP record of the Work Order.

Note

The system will not error out for duplicate file attachments in auto-created records. Hence, the recommendation is to check for duplicate file attachments in source records regardless of the level at which they are attached when the **Copy Line Item Attachments to the Upper Form of the Record** option is selected in the auto-creation setup.

The following provides more details:

The **Business Process Setup** window enables your administrator to provide additional levels of granularity for copying attachments when auto-creations are happening from Record to Record and Line Item to Record methods of Auto creation.

Record to Record

This is the option seen in the Creation Method field "Record Auto Creation: Upper Configuration" in uDesigner (go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select uDesigner, select Business Processes, and open the applicable BP; in the left Navigator, select Auto Creation Process, and then select Upper). This option is pre-populated by the system based on where the BP Creator is located. If the BP creator is located in the upper form of the BP, this option will be seen in the above-mentioned field.

Line Item to Record

This is the option seen in the Creation Method field "Record Auto Creation: Detail Configuration" in uDesigner (go to the Company Workspace tab, and switch to Admin mode; in

the left Navigator, select uDesigner, select Business Processes, and open the applicable BP; in the left Navigator, select Auto Creation Process, and then select Detail). This option is pre-populated by the system based on where the BP Creator is located. If the BP creator is located in the detail form of the BP, this option will be seen in the above-mentioned field.

The **Auto Creation** tab (in the **Business Process Setup** window) provides the following attachment options:

- **Include Upper Form Attachments**
- **Include Detail Form Attachments**
 - **Copy Line Item Attachments to Upper Form of the Record**
 - **Copy Line Item Attachments to Line Items of the Record**
- **Bypass Initiation Step during auto creation**
- **Copy Linked Records**

The following explains the results of the selections:

When the **Include Upper Form Attachments** option is selected, and the source is a Line Item BP, the attachments from the Upper Form of the source record are copied over to the Upper Form of the auto-created record.

- If the destination is a Line Item BP, then:
 - The line items may get created but no attachments from the line items will get copied over.
- If the destination is a Simple BP, then:
 - No attachments from the line items will get copied over to the Upper Form.

When the **Include Detail Form Attachments** option is selected, and the source is a Line Item BP, the **Copy Line Item Attachments to Upper Form of the Record** option will be selected by default.

Note

The **Copy Line Item Attachments to Upper Form of the Record** option will be selected by default to inform you that because the destination is a Simple BP, checking the option of Include Detail Form Attachments will always add the line item attachments to the Upper Form of the Simple BP.

- If the destination is a Line Item BP, then:
 - The attachments from the line items of the source record are copied over to the Upper Form of the auto-created record. If the Upper Form of the source BP record has attachments, the attachments will not get copied over.
 - The line items may get created and any attachments from the source line items will get copied over as Upper Form attachments. The line items from the source may be seen in the auto-created record; however, the line items will not have any attachments.
- If the destination is a Simple BP, then:
 - The attachments from the line items of the source record are copied over to the Upper Form of the auto-created record. If the Upper Form of the source BP record has attachments, the attachments will not get copied over.

When the **Include Detail Form Attachments** option is selected, and the source is a Line Item BP, the **Copy Line Item Attachments to Upper Form of the Record** option will be selected by default. The attachments from the line items of the source record are copied over to the line items of the auto-created record. If the design of the source BP does not have any tab mapping, the line items will not get created, and the line item attachments will not get copied over.

- If the destination is a Line Item BP, then:
 - The line items created in the destination record will have attachments from the corresponding line items of the source record.
- If the destination is a Simple BP, then:
 - The option will not be available.

When the **Include Upper Form Attachments** and the **Include Detail Form Attachments** options are selected, and the source is a Line Item BP, the **Copy Line Item Attachments to Upper Form of the Record** option will be selected by default.

- For Line Item BPs and Simple BPs:
 - The Upper Form attachments from the source record and the line item attachments from the line items are copied over as an Upper Form record attachments in the destination record.

When the **Include Upper Form Attachments** and the **Include Detail Form Attachments** options are selected, and the source is a Line Item BP, the **Copy Line Item Attachments to Upper Form of the Record** option will be selected by default.

- For Line Item BPs:
 - The Upper Form attachments from the source record are copied over as an Upper Form record attachments in the destination record. The Line Item BP attachments, from the line items of the source record, will be over as line item attachments, if the design permits the creation of line items.

Note

When only the **Include Detail Form Attachments** option is selected, the attachments from the Detail Form of the Line Item type BP will not be copied to a Simple BP, on Auto-Creation.

When the **Include Upper Form Attachments** is selected, the source is a Simple BP, the **Copy Line Item Attachments to Upper Form of the Record** option is selected (disabled by the system), and the **Copy Line Item Attachments to Line Items of the Record** option is disabled by the system:

- If the source is a Simple BP:
 - The only option that is available is the **Include Upper Form Attachments**.
- If the source is a Simple BP and the destination is either a Simple BP or a Line Item BP:
 - The Upper Form attachments from the source record of the Simple BP are copied over as Upper Form attachments in the destination record.

Schedule BP Auto-Creation Dynamically

Auto-created business processes can be scheduled for creation from setups created by an administrator, or you can create them dynamically.

To create business process records using auto-creation:

1. Navigate to a business process log, and open the source BP record to use for auto-creation.
2. From the **More Actions** menu, select **Auto-create**.
3. Select the **Enable Scheduled Runs** checkbox.
4. Under **Frequency**, choose how often you want the auto-creation to occur: Daily, Weekly, Monthly, or Yearly.
5. Under **Range of Recurrence**, specify the date range during which the auto-creation should occur.
6. Select **Done**.

After the new record is auto-created, there is a link in the source record to the newly created record. Select this link to access the auto-created record. The link always accesses the last record created by the auto-creation.

After you create a **workflow** record, the system sends it to the assignees as an **initiation task (I Step)** that will appear on their **Tasks** log and the Business Process (BP) log to which the record belongs. If a new record is sent as an initiation task, users must accept the task to manually launch the record.

After you create a **non-workflow** record, the system sends it to the designated creators as an **initiation task (I Step)** that will appear on their **Tasks** log and the BP log to which the record belongs. Users must accept the task to view the record.

Note

If your administrator has set up these business processes to bypass the I Step, the new records will appear at different workflow steps, or in different statuses. For more information, see [Bypassing the Initiation Step \(I-Step\)](#).

Stop Auto-Creation

To stop the creation of auto-created business process records:

1. Navigate to a business process log and select the source record or records to use for auto-creation.
2. From the **More Actions** menu, select **Auto-create**.
3. Deselect the **Enable Scheduled Auto creation** checkbox.
4. Select **Done**.

Create a BP Record, or Line Item, with Manual Auto-Creation

Note

For line item creation, you cannot add a line item to a record in a terminal or terminated status.

To create a business process record or line item with manual auto-creation:

1. Open the record that will auto-create the record or line item.
2. Select **Create** next to the creator field.
The field will display the words "Pending Creation."

The system immediately auto-creates the destination record or line item. The new, auto-created record or line item will show a link to the source record that created it. You can select this link to view the source record.

If you manually auto-create a line item, the system will validate the creation and tell you immediately if there are errors that caused the auto-creation to fail.

The Reset button

When you manually auto-create a record or line item, the button beside the creator field changes from Create to **Reset**. You can use this **Reset** button to break the link from this (the source) record to the new record/line item so that you can auto-create another record or line item manually. When you select **Reset**, it changes back to a **Create** button.

Note

You can find the reasons for the auto-creation failures in the audit log of the business process record. In addition, the system occasionally generates error codes for auto-creation failures, which can be used to troubleshoot the auto-creation failures.

Auto-Create SPA Commits with Variable Unit Cost Lines

You can auto-create the SPA commits with both the Lump Sum and the Unit Cost line items. You can also auto-create the SPA commits with the variable unit cost line items. Similar to other cost line item types, the summary along with cost breakdown will be created if the source is a cost BP and has line items with CBS Codes. This is applicable to both the record-level and the line item auto-creation using the BP Creator and the Line item creator when the source and the destination tabs are mapped in the auto-creation design.

Source Business Process	Destination Business Process	Expected Results
The Cost-type BP of CBS type, and the Line Item-type BP (with the line items having Cost line item-type) selected as variable unit cost type.	Summary Payment Applications SOV BP (SPA commits).	In the auto-created BP record both the summary line item and the cost breakdown will be created if all the required field data is defined. In the summary line item for the variable unit cost type, both the <code>uuu_quantity</code> and the amount are populated. The cost breakdown will be created with the <code>uuu_quantity</code>, <code>uuu_unit_price</code>, and the amount. The CBS Code, from the source, will be copied in to the cost break down in the destination record. If the Cost line item-type in the source BP record is a variable unit cost, and the destination design does not have the <code>uuu_quantity</code> and the <code>uuu_unit_price</code> elements, the auto-creation cannot take place. If the BP record is auto-created across the shell and the CBS Code does not exist, only the summary line item will be created, with the quantity and the amount values. All other validations such as the Cost line item-type value and other required fields will take place during the auto-creation of the BP record, and the auto-created BP record will be in the Creation Step, if any of the required field values are missing.
SPA commits type BP	The Cost BP of CBS type and Line item type BPs (with their line items having cost line item type selected) as variable unit cost type.	In the auto-created BP record, a line item will be created if all the required fields are available, in case of Bypass-I-Step and S-Step auto-creation. In case the required field values are missing, the BP record will remain in the Creation Step.

Creating a BP Record in Document Manager

If you have permission to access the **Document Manager** grouping node, you can create a business process directly from the **Documents** functional sub-node. You can create the BP record by selecting or not selecting the files/folders that must be attached to the record. Additionally, the system supports auto-population of Document Manager properties for Document-Type BP records with and without folder structure.

To access this node:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager** and then select **Documents**.

Creating a record without selecting the files or folders that must be attached to the BP record

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Documents**.
3. In the **Documents** log, select **Create**, and select **Business Process**.
4. In the **New Record** window, select the business process type under **Select Business Process**.
5. Select **Create**.

Note

The format of the business process form changes depending on the availability of the standard forms (user interface) option.

The name of the project/shell (for the Documentation Manager in which the business process is being created) appears under **Business Process Origin**.

The **Select Business Process** field lists business processes that you have permission to access.

After you select a business process:

- For a single workflow setup, the workflow name appears under **Select Workflow**.
- For multiple workflows setups, the **Select Workflow** list lets you select a workflow setup for the new BP record from a list of applicable workflow setups.

Note

The list of workflow setups that appears in list depends on whether you (user) have been designated as an assignee in the creation step.

Creating a record while selecting the files or folders that must be attached to the BP record

If you select files/folders and then create the BP record following the steps outlined earlier, the system adds the files/folders as attachments for the new BP record.

- If you select one or more files, the files are included in the Attachments tab.
- If you select one or more folder folders, then:
 - For Document Manager business processes that do not support folder structure, the system displays an alert message and the documents from selected folders and sub-folders are attached without the folder structure.
 - For Document Manager business processes that support folder structure, the system displays the folder structure.

Creating a BP Record from a Template

If you have created a business process (BP) template for a BP, you can manually create BP records by copying a BP template.

Creating a BP record from a template is similar to copying an existing BP record. Any values in any of the form fields on the template (either manually entered or auto-populated) are copied to the new record. The line items, file attachments, and attachments to line items are also copied. However, the other attached information, such as general comments, linked records, and linked Mailbox, are not copied to the new form.

Note

- When you create a BP record manually by using a template, the users who have been removed from a group, or the users who have been newly added to a group, are not displayed in the Workflow page.
- If the value in a BP picker does not meet the filtering conditions that have been configured for the BP template, the system displays an error message and does not create the record.

To create a BP record from a BP template:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select a BP that you want to use.
3. From the toolbar, select **Actions**, and select **Create From Template** option (available only for all Workflow type BPs) to open the template list (**<BP NAME> Template List**) log. This page displays a list of templates, if available. In this page, the right pane has the following tabs:

- **General** tab
- **Schedule** tab

Simple-type Business Processes: The system *enables* the **Refresh auto-populated and calculated fields on record creation** checkbox option if you use the **Create From Template** option to create a template.

4. From the toolbar, select **Create**, and enter values for the following fields in the **General** tab:
 - **Name**
 - **Description**
 - **Workflow**
 - **Copy Link Records**

In the **General** tab, enter a name for the BP template (in the **Name** field), and select a workflow (from the **Workflow** field drop-down).

If the BP has only one workflow, the system selects that workflow automatically.

If the BP has more than one workflow, a list of the workflows appears in the **Workflow** drop-down list field.

The **Cancel** option lets you abort creating the template, cancel the changes, and reload the previous template properties.

The **Create** option lets you save the template changes.

For information about the **Schedule** tab, see below.

5. When finished, select **Create**.
The new template is displayed in the page.

6. Select the template from the list, and select **Open** (by using the *gear menu* [⚙️] or by double-clicking the template).
The BP form opens (**Template - <BP NAME>**). The data is populated based on the template. You can modify the data or enter additional data, where allowed. After you are finished, you can select **Save** to save the template.
7. When the BP is ready to move to the next step, select **Complete** to send the workflow to the next step.

Note

You can save the record by selecting **Save**, which saves a draft of the record but does not affect the template.

You can double-click the newly created template (or an existing template) to open it for viewing.

If you have created a BP template for a BP, you can manually create BP records by copying the template. For instructions on creating BP templates and scheduling BP creation, see [Creating BP Templates and Scheduling BP Creation](#).

The template list (**<BP NAME> Template List**) log or page contains the following toolbar options:

- **Create**
- **Find on Page**
- **Delete**
You can select (Ctrl+click) multiple templates and delete them at the same time.

The template list (**<BP NAME> Template List**) log or page contains the following columns:

- **Name**
- **Description**
- **Workflow**
- **Status**
- **Scheduled**
- **Creator**

If there are templates created for the BP, select a template, and select **Open** (*gear menu* ⚙️). The BP form opens. The data is populated based on the template. You can modify the data or enter additional data.

If there are no templates created for the BP, the "No Templates are available" message is displayed. In this case, you must create a template as described below:

- Double-click a template to open it for viewing.
- Select **Save** to save updates to a newly created template.

The options available for *gear menu* are context-sensitive, based on the status of the template.

The following *gear menu* (⚙️) options are available for the items in the template list (**<BP NAME> Template List**) log or page:

The following options are displayed when the template is in **Draft** status:

- **Open**

- Create Record
- Delete

The following options are displayed when the template is in **Complete** status:

- Open
- Create Record
- Delete

The following option is displayed when multiple templates, regardless of status, are selected:

- Delete

Scheduling a Run

Use the **Schedule** tab to schedule a run. A template can be set for a scheduled run only if it is marked as **Complete** (under **Status**). The fields in the **Schedule** tab are disabled until the template is marked as Complete. The following options are available in the **Schedule** tab:

- Schedule
 - Enable scheduled record creation

Note

You can schedule auto-creation of records when the template marked as **Complete** (under **Status**).

- Frequency
 - Daily
 - Weekly, end of day
 - Monthly
 - Quarterly
 - Yearly
- Range of Recurrence
 - No end date
 - End by
- Additional Information
 - Auto-email creator if scheduled creation fails

When the template is in **Complete** status, and user is setting up the schedule, the Schedule tab shows the following options:

- **Cancel**
- **Save**

When the template is in **Draft** status, after the Creation step, the Schedule tab shows the following options:

- **Cancel**
- **Save**

Under other conditions the following two options are not available:

- **Cancel**
- **Save**

By default, the first template is selected, and the details for the first template are displayed on the right pane.

In the creation step, no template will be highlighted on the left pane. After you save, the template is added to the template list, highlighted on the left pane, and the details are displayed on the right pane.

Template Status

Templates with Draft status

When you open a template that is in draft status, the system displays the following toolbar options in the upper-right section:

- **Complete**
- **Save Draft**
- **More Actions**
 - Auto-create**
 - Export Line Item Template**
 - Print (HTML, PDF, and Custom)**
 - Reload**
 - Help**
 - [BP Name] Help
 - User Productivity Kit
 - Close**

When you finish drafting and select **Complete**, the system displays the **Workflow Action Details** window. In this window, you can enter all the workflow information and select **Save** when finished. When you select **Save**, the toolbar options change to:

- **Edit**
- **View Workflow**
- **Send**
- **More Actions**

Templates with Complete status

When the template status is marked as **Complete**, the template turns into read-only mode. If you decide to edit a template marked as **Complete**, you can open the template and select **Edit**. This action changes the status of the template to **Draft**. In this case, the system checks to see if there is any scheduled auto-creation for the template.

If a schedule is detected, the system displays a Confirmation message. If you select **Yes**, the system changes the template status to **Draft** and stops the scheduled auto-creation for the template; however, the system retains the previously entered scheduled runs information.

Creating a record from a template with Complete status

When you select a completed template and select **Create Record** from the *gear menu* (⚙️), the system opens the **Create New [BP name]**. The fields in **Workflow [BP name] Details** window are populated with the workflow information that was stored at the time of drafting and subsequent completing of the template, and will open when you select **Send**. The toolbar options change to:

- **Send**
- **Save Draft**
- **More Actions**

If you select **Cancel** in the **Workflow [BP name] Details** window to work in the **Create New [BP name]** window to make necessary changes, or to review the record information, you must select **Send** to route the record to the next step. In these two scenarios:

- The **Workflow [BP name] Details** window opens, but the fields will not be populated with the workflow information that was stored at the time of drafting and subsequent completing of the template.
- You must re-enter the workflow details as the system treats this instance as a one-time creation.

Creating BP Templates and Scheduling BP Creation

You can create templates for project/shell-level and company-level workflow business processes. This allows:

- Easy creation of records for business processes that you use often or are recurring (for example, timesheets)
- Scheduling automatic creation of recurring BP records

This section discusses how to:

- Create and edit business process templates
- Schedule automatic business process record creation from the template

Note

When you create BP records from a BP template, any values in any of the form fields on the template (either manually entered or auto-populated) will be copied to the new record. Line items, file attachments, and attachments to line items will also be copied. Other attached information, such as general comments, linked records, and linked Mailbox, will not be copied to the new form.

Creating a BP Template

You can create a template for any business process for which you have at least "view user records" permission.

Note

Because draft option is not available for *non-workflow* business process records, and draft option is essential in storing a business record template, you can only create a template for a *workflow* business process record.

To create a template:

1. In **User** mode, open to the log containing the business process for which you want to create the template.
2. From the left Navigator, select the business process.
3. From the toolbar, select **Actions**, and select **Create From Template**. The Template List window for that business process opens. The window displays any templates that have been created for the selected BP.
4. Select the **Create** button.
5. Use the information in the table below to fill in the **General** tab in the right pane.

Note

Although the Schedule tab is visible, it is disabled until you have changed the status to Complete. At this point, you can use this template to manually create BP records; however, if you want to schedule automatic creation, you must first change the template status to Complete.

6. Select **Create**.
The system adds the template to the Template List with a status of Draft and opens the form as it would in the create step of the workflow. This form will be used as the template.
7. Enter any information into the template form that you want to include in the records that you create from it.
8. You can add line items as needed. You can also add file attachments, which will be attached when a record is created from the template. This includes attachments to the record itself and attachments to line items.
You can also add linked records, linked Mailbox, and general comments to the template, but these will not be included in the records created from this template.
9. Select the **Save** button at the top of the form.
The system saves the template in Draft mode, and the window remains open. You can use the template at this point to manually create BP records; however, if you want to schedule automatic creation, you must first change the template status to Complete (see the following procedure).

In this field:	Do this:
Name	Enter a name for the new template.
Description	Enter a description of what this template is used for.
Workflow	Select the workflow that should be used for the BPs that will use this template.
Copy Linked Records	Select the checkbox if you want to copy any linked records whenever a record is created from this template.

Changing Template Status (Draft and Complete)

Each template will either be in **Draft** mode or **Complete** mode. You can change the status of a template between the two statuses at any time. The template status controls whether a BP creation schedule can be defined.

If the template status is **Draft**, the template can be edited and used to manually create BP records. Required fields and assignee information can be left blank. Scheduled record creation cannot be performed.

If the template status is **Complete**, the **Schedule** tab in the right pane is activated and can be used to define and schedule automatic record creation. The form is no longer editable (unless changed back to **Draft**). Required fields and assignee information must be completed before the status can be changed to **Complete**.

To change the status of a business process template to Complete:

1. In **User** mode, navigate to the log of the business process for which to edit the template.
2. From the toolbar, select **Actions**, and select **Create from Template**. The Template List window opens.
3. Hover over a template, select the *gear menu* () , and select **Open**. The template form opens.
4. Complete the BP form:
 - Complete all required fields.
 - Be sure the rest of the template form is filled out appropriately, including line items and attachments, if applicable. Remember that if you will be scheduling automatic record creation from this template, the information that you enter here will be used for the creation step and sent to the first step in the workflow.
5. Select **Complete** when finished. A validation check will verify that all required fields are filled out.
6. After a successful validation check, the **Workflow Action Details** window will open.
 - Select a workflow action for the first step in the workflow. If there is only one option, the **Workflow Actions** field will be auto-populated.
 - Add users to the **To** and **CC** field.
 - If the Contact Lists feature is enabled, select the lists in the **Contact List** field.

When the status is **Complete**, the template form becomes view-only. If you have defined a record creation schedule in the **Schedule** tab, the schedule will be activated.

To change the status of a business process template to Draft:

1. In **User** mode, navigate to the log of the business process for which to edit the template.
2. From the toolbar, select **Actions**, and select **Create from Template**. The Template List window opens.
3. Open the template form.
4. Select **Edit**.
5. When the **Confirmation** message appears, select **Yes**.

In **Draft** mode, the template form becomes editable. Scheduled record creation is disabled until you change the status back to **Complete**.

Scheduling Automatic BP Record Creation Based on a Template

You can schedule automatic BP record creation runs that are based on a BP template. The templates must have a status of Complete before you can define and activate the schedule.

For information on manual creation from a BP template, see [Creating a BP Record from a Template](#).

Note

- BP creation cannot be scheduled from a template in projects/shells that have the View-Only or Inactive status.
- If the value in a BP picker does not meet the filtering conditions that have been configured for the BP template, the system does not create the record. If the **Auto-email creator if scheduled creation fails** option is selected on the **Schedule** tab, the system notifies you of the failure.

To define a BP creation schedule:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select a BP that you want to use.
3. From the toolbar, select **Actions**, and select **Create From Template**.
4. In the Template List, select a template to use for the automatically created BP records.
5. In the right pane, select the **Schedule** tab.
6. Complete the Schedule tab as described in the table shown below.
7. Select **Save**.

The schedule is active if the template status is Complete.

In this field	Do this
Enable scheduled record creation	Select this checkbox if you want to enable automatic record creation based on the schedule defined below.
Frequency	The frequency determines how often the new records are created from the template. The options are: • Daily • Weekly (select the day of the week) • Monthly (select the day of the month) • Quarterly (runs on the last day of the calendar quarter) • Yearly (runs on the last day of the calendar year) All scheduled record creation is performed at 11:59:59 PM (PST).
Range of Recurrence	Choose one of the options: • No end date (runs until changed or schedule is disabled) • End by (select an end date)

In this field	Do this
Auto-email creator if scheduled creation fails	Select this option if you want the template owner or creator to receive email notification if the scheduled creation fails. The email will contain location information so that the recipient can see where the auto-creation originated, and where it failed.

Editing or Deleting a BP Template

Users with view permission to a business process log will be able to view any associated templates. The template form and properties can be edited by the owner or creator and by users with Modify Record Ownership.

Only the owner or creator of a template can delete it.

To edit a template:

1. In **User** mode, navigate to the log of the business process for which to edit the template.
2. From the toolbar, select **Actions**, and select **Create from Template**. The Template List window opens.
3. Open the template form.
4. If the template has a **Complete** status, select **Edit**.
5. The fields, line items, file attachments, and other data are editable. You cannot change the workflow after the template has been created.

To delete a template:

In the Template List window, select the template, and select **Delete** from the toolbar, or hover over the template and select **Delete** in the *gear menu* (⚙️). Select **Yes** to confirm.

Editing or Canceling a BP Template Schedule

To edit a business process schedule:

You can edit the schedule information in the Schedule tab at any time. The Schedule tab is active only when the BP status is Complete. After saving changes, the new schedule will be activated immediately.

To pause or cancel scheduled business process creation:

Do one of the following to deactivate scheduled BP creation:

- Open the template and select the **Schedule** tab. Deselect the **Enable scheduled record creation** checkbox. To reactivate the schedule, select the checkbox.
- Open the template form and change the status to Draft (open the Complete template, and select **Edit**). As long as the template remains in Draft mode, the BP schedule will be inactive. You can still manually create BP records from a draft template. To reactivate the schedule, change the status back to Complete.

Failed Scheduled BP Record Creation

If a scheduled BP creation fails and the checkbox enabling notification has been selected on the Schedule tab of the template Properties window, email notification is sent to the template

owner. The email contains location information so that the recipient can see where the auto-creation originated and where it failed. Following are conditions under which scheduled record creation can fail:

- The To field is empty. This is possible if the assignee user becomes inactive after the schedule is created or if a group is empty.
- CBS code is invalid, which can happen if the CBS code becomes inactive after selecting in the template.
- The rules engine validation fails.
- For payment applications, if the associated SOV is locked either by the payment application record in routing, or by a change commit with a negative line item value. See [Payment Application Business Processes](#) for details.

Note

If the destination BP does not exist or has not been imported into the system, the location specified in the email notification might be non-existent or incorrect.

- The value in a BP picker does not meet the filtering conditions that have been configured for the BP template.

Creating a BP Record with Attachments From Aconex Mail (Cloud Only)

Aconex Mail correspondence may result in the need for a business process record to be created within Unifier. To save time and reduce errors, the business process is automatically created from Aconex mail, including all details and attachments. This ensures both systems are connected with accurate information. The following procedure automates the handoff, such as creating a Change Request in Unifier.

You can start a business process from any Aconex mail that your organization has sent or received.

[Video](#)

Prerequisites

This feature is available to customers hosted in OCI multi-tenant environments only.

Ensure the following:

- The project in Aconex and Unifier is linked in the Lobby. For more information, see "Link Projects that are Managed in Multiple Applications" in the *Oracle Construction and Engineering Lobby Help*.
- You have access to the project in both Aconex and Unifier.
- You have the Start Unifier Business Process permission granted to your Aconex user role.
- You have the permission to create a business process in Unifier per assignment in the workflow setup within the project. Permissions are assigned in the workflow setup within the project. For more information, see Workflow Setup in Company-Level BPs or Project-Level BPs.

Procedure

To create a Unifier business process from Aconex Mail:

1. In Aconex, create and send a new mail, or find an existing mail.

2. From the mail, select **Start Unifier Business Process**.
3. Select the Unifier project.
4. Select the business process you want to create in Unifier.
5. Select the workflow name for the process, and select **Continue**.
The Aconex mail will be attached to the business process as a PDF.
6. Indicate whether you want to attach the selected mail, all mails or all replies in the thread to the business process record, and select **Finish**.
7. To view the draft record in Unifier with the included attachments, select **View in Unifier**.
8. Complete the business process in Unifier.

Using CSV and RESTful Services

You can use CSV and RESTful Services to create a BP Record or Line Item with Line Item Data Picker. When you export your CSV template, the Line Item Data Picker is shown and the direction is set as an input or both, in the Integration tab in uDesigner.

Note

You cannot modify the BP Data Picker alone if it has an associated Line Item Data Picker value. You must provide both the BP Data Picker value and BP Line Item Data Picker value to modify any one of them.

When you use Bulk Create or Bulk Update, you start by exporting the BP design structure to a Microsoft Excel or CSV file and then populating the required fields. If you leave a Data Picker Data Element (DE) field blank that is configured to Auto Populate, the system completes the field when you run a Bulk Create; however, it does not complete the field when you run a Bulk Update. To reduce confusion and maintain consistency for both Bulk Create and Bulk Update, the system uses the Excel or CSV file to populate the Data Picker field if the field is excluded from the Integration Form for the BP design.

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

When you create workflow BP records through a REST service, the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input request is ignored. Also, when you update workflow BP records through a REST service, you cannot change the Due Date.

Validations Performed on Line Item Data Picker Values

When you create a record or line items using a CSV import, if a CSV import or a REST input request has Line Item Data Picker values, the following validations are performed to check if:

- the associated data picker has a record selected
If a record is not selected, the system displays an error message.
- the record selected verifies that the line item belongs to the selected record
If not verified, the system displays an error message.
- the line item exists
If it does, the system runs the query conditions defined for the Line Item Data Picker.
If it does not, the system displays an error message.
- Duplicate work packages are included. Work package names are case-sensitive.

The system identifies specific erroneous records or line items for the following scenarios:

- If form validation rule fails
- Data elements in the upper form. For example, data elements that are not unique.

Note

Data elements with leading and trailing spaces are ignored. For example, data elements "EAM" and "EAM ", the latter containing a trailing space, are treated as identical.

- If records within an input file or request contains same unique DE value
- Multiple records or line items exist for a specific value

The above Line Item Data Pickers validations are also supported in the following REST services:

- Get BP Record List
- Get BP Record
- Get BP Record with attachments
- Create BP Record
- Create BP Record with lineitems
- Update BP Record

Note

You cannot create or update a non-workflow BP record for which the input request file contains a status value that is *Inactive*. If you submit a request that contains an *Inactive* status, the system sends an error message through email notification.

Validations Performed on User Picker Values

When you create a record or line items using a CSV import, REST services, or Bulk Update, if the CSV import or input request has User Picker values, the following checks are performed:

- BP records will be created successfully:

- If a single user with a specific First Name and Last Name exists in a project with a status of **Active/On-hold**.
- If multiple users exist with identical First Name and Last Name, but only one user's status is **Active/On-hold** while all other users have an **Inactive** status.
- BP records will not be created if multiple users exist with identical First Name and Last Name, with a status of **Active/On-hold/Inactive**.

Validations Performed on BP Picker Values

If provided, the BP Picker value must meet the configured query conditions. Otherwise, the system displays an **Invalid value or multiple records found** message. If you select multiple values, the system determines whether a match to the same values is found in the query.

Using Microsoft Excel Template to Create BP Records and BP Line Items in Bulk

Creating BP records, in bulk, through Microsoft Excel templates is available for all BPs that allow bulk creation of records and line items.

A Microsoft Excel file or template supports formulas, special characters, and it has multiple sheets.

Note

- A CSV file or template does not support formulas or special characters, and it does not have multiple sheets (select **Actions**, and select **Export CSV Template**).
- When you use Bulk Create or Bulk Update, you start by exporting the BP design structure to a Microsoft Excel or CSV file and then populating the required fields. If you leave a Data Picker Data Element (DE) field blank that is configured to Auto Populate, the system completes the field when you run a Bulk Create; however, it does not complete the field when you run a Bulk Update. To reduce confusion and maintain consistency for both Bulk Create and Bulk Update, the system uses the Excel or CSV file to populate the Data Picker field if the field is excluded from the Integration Form for the BP design.

When you select **Actions**, you can select **Export Microsoft Excel Template** to create a single BP record or multiple BP records (bulk) that contain formulas, special characters, and multiple sheets.

Note

This option will be seen for all users who have the **View** access to the log.

For creating Line Items for a single BP record or multiple BP records (bulk) that contain formulas, special characters, and multiple sheets, you can select **More Actions** (available for BPs that support line item export) and select **Export Line Item Template**.

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

The supported Microsoft Excel file formats are the Excel workbooks having the ".xlsx" and ".xlsm" extensions.

① Note

- The Strict Open XML Spreadsheets having ".xlsx" extension is not supported.
- Google spreadsheets having .xlsx extension are not supported.

The supported Microsoft Excel versions are Excel 2010 (v14.0) and later.

The supported Microsoft Excel functions are: ABS, ACOS, ACOSH, ADDRESS, AND, AREAS, ASIN, ASINH, ATAN, ATAN2, ATANH, AVEDEV, AVERAGE, BIN2DEC, CEILING, CHAR, CHOOSE, CLEAN, CODE, COLUMN, COLUMNS, COMBIN, COMPLEX, CONCATENATE, COS, COSH, COUNT, COUNTA, COUNTBLANK, COUNTIF, COUNTIFS, DATE, DAY, DAYS360, DEC2BIN, DEC2HEX, DEGREES, DELTA, DEVSQ, DGET, DMAX, DMIN, DOLLAR, DSUM, EDATE, EOMONTH, ERROR.TYPE, EVEN, EXACT, EXP, FACT, FACTDOUBLE, FALSE, FIND, FIXED, FLOOR, FREQUENCY, FV, GEOMEAN, HEX2DEC, HLOOKUP, HOUR, HYPERLINK, IF, IFERROR, IMAGINARY, IMREAL, INDEX, INDIRECT, INT, INTERCEPT, IPMT, IRR, ISBLANK, ISERR, ISERROR, ISEVEN, ISLOGICAL, ISNA, ISNONTEXT, ISNUMBER, ISODD, ISREF, ISTEXT, LARGE, LEFT, LEN, LN, LOG, LOG10, LOOKUP, LOWER, MATCH, MAX, MAXA, MDETERM, MEDIAN, MID, MIN, MINA, MINUTE, MINVERSE, MIRR, MMULT, MOD, MODE, MONTH, MROUND, NA, NETWORKDAYS, NOT, NOW, NPER, NPV, OCT2DEC, ODD, OFFSET, OR, PERCENTILE, PI, PMT, POISSON, POWER, PPMT, PRODUCT, PROPER, PV, QUOTIENT, RADIANS, RAND, RANDBETWEEN, RANK, RATE, REPLACE, REPT, RIGHT, ROMAN, ROUND, ROUNDDOWN, ROUNDUP, ROW, ROWS, SEARCH, SECOND, SIGN, SIN, SINH, SLOPE, SMALL, SQRT, STDEV, SUBSTITUTE, SUBTOTAL, SUM, SUMIF, SUMIFS, SUMPRODUCT, SUMSQ, SUMX2MY2, SUMX2PY2, SUMXMY2, T, TAN, TANH, TEXT, TIME, TODAY, TRANSPOSE, TREND, TRIM, TRUE, TRUNC, UPPER, VALUE, VAR, VARP, VLOOKUP, WEEKDAY, WEEKNUM, WORKDAY, YEAR, YEARFRAC.

The following topics explain how to use Microsoft Excel create a single BP record or multiple BP records (bulk) and line items that contain formulas, special characters, and multiple sheets.

Microsoft Excel Format for Creating BP Records

The following applies to all business Processes where BP records can be created, in bulk, by way of CSV import.

Note

The Request for Bid business process (RFB BP) does not support bulk creation of records through CSV.

The following does not apply to managers such as Space Manager, Portfolio Manager, Configurable Managers, Code and Records-based Configurable Managers, and Code-based Configurable Managers that allow the creation of records by way of CSV import.

To create BP records, in bulk, through Microsoft Excel:

1. In your shell, go to the **Logs** grouping node (BP Logs), and select a BP to open the BP log.
2. From the toolbar, select **Actions**, and select **Export Microsoft Excel Template**. This option is only available for the users with **View** permission, to the log.

To be able to download your Excel template the integration interface must be defined for the BP record. If the BP record does not have a defined integration interface, the entire import will be aborted and no BP records or BP line items will get created. In such scenario, Unifier displays the following error message: *"Import could not be completed. There are errors in this template file. These errors can be seen in the Import Data Template worksheet. Do you want to download the file and fix the errors? Click 'Yes' to download the file and 'No' to upload a different template file."*

MS Excel Template File Name Format

When you export your template file, the name of the exported template file is generated in the following format: <BPName>_Template

Note

The name will always be the source string without spaces.

For example, if the BP name is Daily Reports, the exported template file name is generated as *DailyReports_Template*.

MS Excel Template File Worksheets

The exported template file contains the following worksheets:

- **Instructions** worksheet
- **Imported Data Template** worksheet
- **<Other User-Defined>** worksheet

Instructions Worksheet

This worksheet is generated automatically in the first tab of the template file. You cannot change the name of this worksheet. The **Instructions** worksheet contains all the relevant information about entering the BP record and line item information data. The content of the instructions worksheet will depend on the type of business process.

Imported Data Template Worksheet

This worksheet is also generated automatically as the second worksheet in the template file. You cannot change the name of this worksheet. This worksheet contains the Unifier data needed for creating BP record and line item.

Note

The name of this worksheet is translated according to the user's language preference.

The top section of this worksheet depends on the business process type.

- For the Cost BPs of Summary Payment Application SOV type, the **Enter date below** section displays an additional row to enter the Cost Allocation. In addition to the H & D rows, the CA row will also be seen. This row will have the asterisk symbol (*) for all the required fields of cost allocation details.
- For the Simple BPs, the worksheet displays the **Enter data below** section and an H row that contains the column headings.
- For Line items type of BPs, the first few rows lists all the line item tabs. The first line contains static informational text "Line Item Tabs along with the respective detail form fields." The tabs list one below the other. The hidden tabs are also displayed, similar to the CSV template files. The "Tab Name" is the first column followed by the Detail Form fields. All the required fields of the line item tab are marked with an asterisk symbol (*).

<Other User-Defined> worksheet

You can insert additional sheets for your reference. However, the content of these worksheets will not be processed by Unifier during import.

If the work package picker is included in the BP, the worksheet includes a **Work Package** field with a drop-down list of values. Work package names are case-sensitive.

Entering Data in the Microsoft Excel Template File

To enter data in the Excel template file, use the **Import Data Template** option to create records, or create records with line items.

Note

Review the information on the Instructions worksheet to minimize the import errors.

When entering data, you can:

- Enter data in all the fields.
- Copy the values of a column from another sheet. This is to state that you can use the Excel native features when entering data.
- Use Excel formula feature to calculate values in the columns.
- Enter UTF-8 character string in the String fields.

For all data types, Unifier only processes the data and not the format, when importing.

For example, if you entered -999.99 and the format on the cell is (999.99), you will see the data in Excel as (999.99). When Unifier processes this data, -999.99 is processed and not (999.99).

Creating BP Records By Importing a Microsoft Excel Template

To create BP Records by **Importing MS Excel Template**:

1. From the toolbar, select **Actions**, select **Import**, and then select **Data From Microsoft Excel File**.
2. Follow the prompts.

If you can create new BP records, the **Import** option further displays the following options:

- **Data From CSV File**
- **Data From Microsoft Excel File**

Uploading Excel Files

When you upload an Excel file, in the **Upload Microsoft Excel File** window (similar to the CSV), you can select the Excel file (using the **Select File** option) and select **Next** to proceed with your upload. See below for information about adding attachments.

Validating Microsoft Excel File Content

During the import process, validations occur at multiple levels. These include:

- validations to ensure that the BP record has the required setup to create records through Excel in the **Auto Creation** tab of the BP setup.
- validations to ensure values have been entered in all the required fields to create BP records as well as line items. If the import fails, the imported file will now contain error information.

Note

Leading and trailing spaces in data elements will be ignored for validations. For example, data elements, "cost item", and "cost item ", the latter including a trailing space character, are treated as identical data elements.

After the initial validation ends, the file is processed further. At this stage, all validations pertaining to system-level rules as well as user-defined form-level validations are performed. In the event of a failure, an email notification with the reason for failure is sent to users and groups identified in the business process setup.

Errors and Corrections

When an error is encountered in any of the rows, the entire import is aborted and no BP records or line items are created. As mentioned earlier, when the import file contains errors, the following message displays:

Import could not be completed. There are errors in this template file. These errors can be seen in the Import Data Template worksheet. Do you want to download the file and fix the errors? Click 'Yes' to download the file and 'No' to upload a different template file.

Additional Information Regarding Importing a Microsoft Excel Template File

The name of a downloaded file is identical to the name of the imported Excel template file. If you decide to download a file with errors, the **Import Data Template** worksheet displays errors in the following format:

- On the first row of the worksheet, the following static text displays in an additional column: *Following errors were encountered while importing the data from the template. This column must be deleted after fixing all the errors. If this column exists in the file at the time of import, the import will fail.*
- Errors that are not specific to a row, display in the first H row that contains the data. For example, errors such as the auto-creation setup not being met.
- A row with multiple errors displays all the errors in the error cell.
- Each row that has an error displays the actual error message in the first column.
 - The following error format is used for the required fields:
"Values are missing in required fields: <Field Label 1>, <Field Label 2>"
For example,
Values are missing in required fields: Contract Reference.
"Values are missing in required fields: <Field Label 1>, <Field Label 2>, <Field Label 3>"
For example,
Values are missing in required fields: Type, Short Description, Asset Type.
 - For other form-level validations, the message is displayed against the row.
For example, *Equipment Units Available cannot be less than 10. This number is required for contingency purposes.*

Adding Attachments

Similar to the CSV file import, you can add attachments. You can upload all the referenced attachments in the **Add Attachments** section. You can use the **Upload Microsoft Excel File** window (in the 'Add Attachments' step) to add attachments to your BP record, or line item, during your import. The review section on the screen enables you to see the files that have been uploaded and the files with upload pending.

For example, when you upload the Microsoft Excel file, all attachments listed in the Excel file display in the **Files to be Uploaded** section. When, you upload each file, the status of the file changes from *Waiting for File* to *Ready to be uploaded*.

In the **Review** section, you can perform sort operations on the **Status** column.

When you select **Upload**, Unifier uploads the attachments onto the respective BP record, or line item, as required.

Validating Added Attachments

When you upload your attachments, Unifier performs the following validations:

- If there is no data in the **Attachments** column of the Microsoft Excel file that is being uploaded, Unifier processes the file as a file that does not need have any attachments that need to be uploaded.
- If you have specified a name for the **Attachment** column at the BP record level or at the line item level, Unifier ignores the column headings.
- For Document Type BPs, you can include a maximum of one file as an attachment with each line item.

To validate a *BP record level* Excel import:

When you choose to create BP records by importing an Excel file from the **BP Log** node, Unifier does not retain the **Attachment** option that was used in the validation form of the

integration interface. If you decide to import attachments while using Excel import, Unifier will allow the import action. If there are files that have been referenced in the **Attachments** column of the Excel file and Unifier cannot find the files in the attachment payload (attachment missing), the **Attachments** table displays the following message:

Some files are still waiting to be uploaded. Do you want to proceed without uploading those files? Select **OK** to create BP records or line items without any attachments from the Excel file, ignoring any missing attachments, or select **Cancel** to return to the **Upload Attachments** step of the upload process.

Similarly, if the file **Status** in the **Review** section displays *Waiting for the file* and you select **Upload**, the **Attachments** table displays the following message:

Some files are still waiting to be uploaded. Do you want to proceed without uploading those files?

Select **OK** to create BP records or line items without any attachments from the Excel file, ignoring any missing attachments, or select **Cancel** to return to the **Upload Attachments** step of the upload process.

For validating a *line item level* Excel import:

When you proceed with a line item import, from a **Line Item** tab, if the option **Upload documents from My Computer** is not selected in the design, you cannot add attachments, and the **Attachments** table will provide the following informational text: *Uploading of Attachments is not allowed.*

If there are files that have been referenced in the **Attachments** column of the Excel file and Unifier cannot find the files in the attachment payload (attachment missing), the **Attachments** table will provide the following informational text: *Some files are still waiting to be uploaded. Do you want to proceed without uploading those files?* If you select **OK**, Unifier will ignore the missing attachments (from the Excel file) and creates the line items, without any attachments. If you select **Cancel**, you will be returned back to the **Upload Attachments** step of the upload process.

Note

If there are files uploaded in the attachment payload, but the uploaded files are not present in the **Files to be Uploaded** section of the Excel file, the files are not uploaded. In this scenario, the file **Status** does not change in the **Review** section.

Audit Log Information for Imported BP Records

The following information is captured in the Audit log for each BP record created through Microsoft Excel import process.

Non-Workflow BPs

The following information is captured in the audit log for non-workflow BPs:

- **Event:** *Creation by way of Microsoft Excel Import*
- **Action:** Create <BP Name>

Workflow BPs

The following information is captured in the audit log for workflow BPs:

- **Event:** *Creation by way of Microsoft Excel Import*

- **Action:** <Action Name>

Microsoft Excel Format for Creating Line Items for BP Records

You can create line items through the **Export Line Item Template** option under **Microsoft Excel** within the **More Actions** menu.

Note

This option is not available in the Bidder portal. A bidder can import or update existing lines that are part of the Requestor package through CSV import only.

You can see **Export Line Item Template** option only if the integration interface has been defined for the BP record. If the BP record does not have a defined integration interface, the option will not be made available. In addition, this options will be available when the BP record is in **Edit** mode. The **Export Line Item Template** option will be seen whether or not the Upper Form property allows the addition of line items. Finally, this option will not be available in the **End** step of a Workflow BP.

MS Excel Template File

When you export your template file, the name of the exported template file will have the following format: <BPName>_Line Items_Template

Note

The name will always be the source string without spaces.

Example

If the BP name is Daily Reports, the template file name will be: DailyReports_Line Items_Template.xlsx.

MS Excel Template File Worksheets

The exported template file will have the following worksheets:

- **Instructions** worksheet
- **Imported Data Template** worksheet
- **<Other User-Defined>** worksheet

Instructions worksheet

This worksheet is generated automatically, and you cannot change the name of this worksheet. The **Instructions** worksheet contains all the relevant information about entering the BP record and line item information data. The content of the instructions worksheet will depend on the type of business process.

Imported Data Template worksheet

This worksheet is generated automatically, and you cannot change the name of this worksheet. Always set by Unifier as the second worksheet in the template file, this worksheet contains the data needed for creating BP record and line item.

Note

The name of this worksheet will be translated according to the user's language preference.

The top section of this worksheet is dependent on the business process type.

For Generic Line Item BPs

- The first row will have the following static informational text: "Line Item Tabs along with the respective detail form fields"
- The rows that follow will list all the line item tabs.
- The rows that follow will list all the line item tabs.
- All the required fields will have the asterisk symbol (*).
- The tabs are listed in the next rows, one after the other. The hidden tabs are also listed, similar to a CSV template.
- After all the line item tab fields, the subsequent rows will contain the fields that the user can enter details for the BP record or line item that needs to be created. The first row, in the data entry section, will have the following static informational text: "Enter data below"
- The D row will list all the fields from all the tabs.
- The **Tab Name** field is the label of the first column, followed by the detail form fields.

For Cost BPs of Summary Payment Application SOV type

The first row will have the following static informational text: "Line Item Tabs along with the respective detail form fields"

The rows that follow will list all the line item tabs.

All the required fields will have the asterisk symbol (*).

After the D row, a CA row will be seen. This row will have the asterisk symbol (*) for all the required fields of the cost allocation details.

<Other User-Defined> worksheet

A user may insert additional sheets for their reference. These sheets will not be processed by Unifier at the time of import.

An end-user (you) can add multiple worksheets.

Note

The content of this worksheet will be ignored at the time of import.

Entering Data in the Microsoft Excel Template File

The following explains the general rules for entering data in the Excel template file.

You must use the **Import Data Template** option to be able to enter data and ultimately create records, or to create records with line items.

Note

Review the information on the Instructions worksheet to minimize the import errors.

When entering data, you can:

- Enter data in all the fields.
- Copy the values of a column from another sheet. This is to state that you can use the Excel native features when entering data.
- Use Excel formula feature to calculate values in the columns.

Note

If you enter a decimal value in the **Line No.** field of the imported template, Unifier will ignore the decimal value and will treat this line as a new line item and will create a new line item after the import. This method is applicable to both Excel and CSV imports.

Creating Line Items by way of Importing the Microsoft Excel Template Data

The **Import** option displays only if you can create new BP records. The sub-options within the **Import** option display only if the Upper Form properties allow the addition of line items. These include:

- **Data From CSV File**
- **Data From Microsoft Excel File**

To create line items by way of **Importing MS Excel Template**:

1. From the toolbar, select **Actions**, select **Import**, and then select **Data From Microsoft Excel File**.
2. Follow the prompts.

Note

Spend-type BPs with configurable manager are not supported for importing line items.

Uploading

When you upload a Microsoft Excel file, in the **Upload Microsoft Excel File** window (similar to the CSV), you can select the Excel file (using the **Select File** option) and select **Next** to proceed with your upload. See below for information about adding attachments.

Validating Microsoft Excel File Content

There are multiple levels of validations that take place during the file import process. To begin, Unifier will check to ensure that all required fields for the creation of a line item have been met successfully.

In case of any failures, the import will fail, and the same file that was used for importing the data will be changed to contain information about the errors. After the initial check has been passed, the system will process the file further.

Errors and Corrections

When an error is encountered in any of the rows, the entire import will be aborted and no BP records, line items, will get created. As mentioned earlier, when the import file contains errors, Unifier will alert the user with the following message: "Import could not be completed. There are errors in this template file. These errors can be seen in the Import Data Template worksheet. Do you want to download the file and fix the errors? Click 'Yes' to download the file and 'No' to upload a different template file."

Adding Attachments

Similar to the CSV file import, you can add attachments. You can upload all the referenced attachments in the **Add Attachments** section. You can use the **Upload Microsoft Excel File** window (in the 'Add Attachments' step) to add attachments to your BP record, or line item, during your import. The review section on the screen enables you to see what which files are uploaded and which files are remaining.

Example

When you upload the Microsoft Excel file, all the attachments listed in the Excel file will be read by Unifier, and they will get listed in the 'Files to be uploaded' section. As, and when, you upload the files, the status of the respective file will turn from 'Waiting for File' to 'Ready to be uploaded'.

You can perform sort operations on the **Status** column in the review section.

When you select **Upload**, Unifier uploads the attachments onto the respective BP record, or line item, as required.

Validating Added Attachments

When you upload your attachments, Unifier performs validations:

- If there is no data in the **Attachments** column of the Microsoft Excel file that is being uploaded, the system processes the file as a file that does not need have any attachments that need to be uploaded.
- If you have specified a name for the **Attachment** column (either at the BP record level or at the line item level), the system ignores the column headings.

For validating a *line item level* Excel import:

When you proceed with a line item import, from a **Line Item** tab, if the option **Upload documents from My Computer** is not selected in the design, you cannot add attachments, and the **Attachments** table will provide the following informational text: "*Uploading of Attachments is not allowed.*"

If there are files that have been referenced in the **Attachments** column of the Excel file and Unifier cannot find the files in the attachment payload (attachment missing), the **Attachments** table will provide the following informational text: "*Some files are still waiting to be uploaded. Do you want to proceed without uploading those files?*" If you select **OK**, Unifier will ignore the missing attachments (from the Excel file) and creates the line items, without any attachments. If you select **Cancel**, you will be returned back to the 'Upload Attachments' step of the upload process.

If there are files uploaded in the attachment payload, but the uploaded files are not present in the Files to be uploaded section of the Excel, Unifier will not upload those files. In this scenario, the **Status** value will not change in the review section, for the files.

After a successful import, the line items get created. Subsequently, the line item log will get refreshed with the newly created line items.

For Document Type BPs, you can include a maximum of one file as an attachment with each line item.

Audit Log

Each line item created through Microsoft Excel import will be audited. The following is the audit attributes:

- Event
 <Tab Name>: Line Item created through Microsoft Excel Import
- Action
 Add <Short Description>

Microsoft Excel File Format for Bulk Update Export/Import Process

The following applies to all business processes where BP records are exported using the **Bulk Update** option to a Microsoft Excel file (.xlsx). See [Exporting BP Records Using Bulk Update From Business Process Log Node](#).

Note

Bulk Update is not currently supported for General Spends Classification of Cost BPs with Line item of CBS Code (both workflow and non-workflow) if breakdown rows exist in the referenced Schedule of Values (SOV).

When you select BPs using the **Bulk Update** menu options, the exported Excel file is saved using the following file formats:

- For business processes containing only Main Form data, the file is saved in the default format: <BP Name>_MainForm.xlsx. For example, *Warranty_MainForm.xlsx*.
- For business processes containing Main Form data and line item data, the file is saved in the default format: <BP Name>_MainForm_LineItems.xlsx. For example, *Warranty_MainForm_LineItems.xlsx*.

The exported/imported Excel file contains the following worksheets/tabs:

Instructions Worksheet

The **Instructions** worksheet is generated automatically. Depending on the type of business processes included in the Excel file, this worksheet describes how to use the Excel file to enter or update BP records and line item data.

Main Form Worksheet

The **Main Form** worksheet is generated automatically as the second worksheet in the Excel file. It is recommended to not rename or reorder this worksheet. The content of this worksheet is dependent on the types of BPs included in the export/import. It contains the Unifier data needed for updating existing BP records, and line items.

- Each BP record is identified by read-only fields in the following order: **Record ID** and **Record Number**.
- The following fields/data elements are also read-only: **Record Status, Creator, Creation Date, Currency ID, Due Date, Status in WF, BP, Formula Data Elements** and data elements that are set to auto-populate from the sum of all line items data elements from the Integration Validation Form.
- The line item tab order is identical to the order in the selected records.
- Custom date formats are honored.
- The data elements with direction set as **Input** or **Both** are shown as fields in the exported Excel file.
- The name of the worksheet is translated according to the user's language preference.

Additional Worksheets for each Line Item Tab

Each Line Item tab worksheet displays a list of line item records in the following format:

- The line item records and the data elements of each tab are listed in the same order as displayed in the user interface.
- Each line item record is identified by read-only fields in the following order: **Record ID, Line Item ID, Record number**, and **Line No**. These fields cannot be renamed, reordered, duplicated, or removed from the file.
- The formula data elements and auto-populated data elements are read-only fields.
- Worksheet names do not support the following special characters: \ / ? * : [or]

Codes and Descriptions Worksheet

The fields displayed in the **Codes and Descriptions** worksheet depends on the cost sheet. At a minimum, these include:

- **Cost Code:** Displays cost codes available in the project cost sheet. It includes active cost codes and inactive cost codes with the entire hierarchy.
- **Cost Item:** Displays the name of the item associated with the cost code.
- **Status:** The status of the cost code at the time of the export. Valid values include: **Active**, and **Inactive**.

SOV Line Items Worksheet

An **SOV Line Items** worksheet, if generated, displays the following fields:

- **refiid** (label of field): A list of contracts associated with the records in the **Line Item** worksheet.
- **Ref** (label of **uuu_sovlinum** field): A list of all reference codes from the SOV sheet of the selected contract.
- **CBS Code:** A range of CBS codes associated with the contract.
- **Commit Short Description:** A short description of each commit.

Microsoft Excel File Format for Bulk Creating BP Records in the Master Log

As a company-level user or partner user, you can create and upload a batch of business process (BP) records across projects/shells from a Microsoft Excel spreadsheet (.xlsx or .xlsm) if you have:

- Access to the **Master Log** node
- **Allow Bulk Creation** permission
The **Allow Bulk Creation** permission, although visible for all BPs, is supported for only:
 - Simple BPs such as Action items, Project Note, or Field Observations
 - Generic Line Item BPs such as Daily Reports or Warranty
 - Generic Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Transfer Cost BPs (Line item with CBS Code, Line item with Fund Code, Line item with CBS and Fund Code, and Line item with CBS and WBS Code)
 - Base Commit (Line item with CBS Code - Create SOV of General Spends and Payment Applications)
 - Change Commit BPs (Line item with CBS Code - Update SOV of General Spends and Payment Applications)
 - General Spends (Invoices)

It is recommended that you use this process to create several records in bulk across projects. It is a scheduled high-priority background job and the job can be processed based on other background jobs in the queue.

Note

Do not use this process to update *existing* BP records.

Business Process (BP) records that you plan to import into the **Master Log** node must adhere to a specific file format. You can download the Excel file that is to be used as template for creating the BP records.

- For Simple BPs containing only Main Form data, such as Action Items, Project Note, or Field Observations, the Excel file is named in the default format, *<BP Name>_MainForm.xlsx*. For example, *Warranty_MainForm.xlsx*.
- For business processes containing Main Form data and line item data, such as Daily Reports, or Warranty, the spreadsheet is named in the default format, *<BP Name>_MainForm_LineItems.xlsx*. For example, *Warranty_MainForm_LineItems.xlsx*.

The exported/imported Excel file contains the following worksheets/tabs.

Instructions Worksheet

The **Instructions** worksheet is generated automatically as the first worksheet in the Excel file. Depending on the type of business processes included in the spreadsheet, the **Instructions** worksheet describes how to use the spreadsheet to enter BP records and line item data.

Main Form Worksheet

The **Main Form** worksheet is generated automatically as the second worksheet in the Excel file. It contains the Unifier data needed for updating existing BP records and line items.

- For each BP record, the following fixed columns display as the first and second columns:
 - **Shell Number:** A valid active project/shell number. Refer to the [Shell Details worksheet](#) to view a list of active projects/shells across different hierarchies.

- **Record Sequence No.:** A sequence no that uniquely identifies a record for that project/shell.

Each BP record is identified by the unique combination of the **Shell Number** and **Record Sequence No.**

- Subsequent columns display the data elements based on the BP design of the **Upper Integration** tab with direction set to Input or Both.
- Mandatory fields are marked by an asterisk (*).

Note

Do not rename or reorder this worksheet. The content of this worksheet is dependent on the BP selected for the bulk creation import process.

<Line Item Tab Name> Worksheets

One or more Line Item tab worksheets is automatically generated depending on the BP design. Use the Line Item tab worksheets to create line items for BP records specified on the **Main Form** worksheet.

- The following columns display initially in each line item tab:
 - **Shell Number:** A valid active project/shell number. It must be identical to a shell number in the **Main Form** tab. Refer to the Shell Details Excel spreadsheet below to view a list of active projects/shells across different hierarchies.
 - **Record Sequence No.:** A sequence number that uniquely identifies a record for that project/shell. It must be identical to the **Record Sequence No.** field value in the **Main Form** tab.
 - **Line No.:** (Optional) A sequence number to uniquely identify the lines for that tab. If a value is not specified, the **Shell Number** and **Record Sequence No.** are used to uniquely identify a record to add line items.
Each line item is identified by the unique combination of values in the **Shell Number** and **Record Sequence No.** fields.
- Subsequent columns display data elements depending on the BP design. For General Spends business process, the following additional columns also display:
 - **Ref No** (maps to the Reference No in the SOV Sheet)
 - **Description** (description of the Ref No from the SOV Sheet)
 - **Breakdown** (breakdowns defined in the SOV Sheet)
 - Data elements allowed in the Integration tab with direction set to Input or Both, including Cost Code (SOV Picker in the UI)
- Additional pickers are available based on the business process type. See [Available Pickers For Business Process Types](#).
- Line Item tab worksheet names cannot exceed 30 characters. Otherwise, the exported file truncates the worksheet name to 27 characters followed by underscore (_) and the tab order number.
- The following special characters are not supported: \ / ? * : [or]

Note

Do not rename or reorder this worksheet. The content of this worksheet is dependent on the BP selected for the bulk creation import process.

Microsoft Excel File Format of Shell Details File

The Shell Details Excel file contains information of all projects/shells with the following statuses:

- **Active**
- **Inactive**
- **On-Hold**
- **View-Only**

The following information is displayed for each project/shell:

- **Shell Number:** A valid active project/shell number.
- **Shell Name:** The name associated with the active project/shell number.

Use this Excel file to copy and include the above project/shell information while creating BP records across projects/shells in the **Main Form** worksheet and the **<Line Item Tab Name>** worksheets of the Excel file you will import into Unifier.

Note

The project/shell numbers in the Excel file that will be imported into Unifier must be identical to those listed in the Shell Details Excel file.

To download the Shell Details Excel file, see [Creating the Excel File for Bulk Creating BP Records](#).

Error File Format of Bulk Update Import Process

When the Bulk Update import process is **Completed with Errors**, a list of erroneous files is generated in a Microsoft Excel file (.xls).

Use any of the following methods to download the error file:

- Download the error file from the **Import Data History Details** window. See [Viewing Bulk Update Import Data History Details](#).
- Download the error file from the email notification you receive when the import process is **Completed with Errors**.

The error file contains the following worksheets/tabs:

- **Instructions** worksheet
The **Instructions** worksheet is generated automatically. Depending on the type of business processes included in the error file, this worksheet describes how to resolve errors identified in the BP records and line item data.
- **Main Form** worksheet

The **Main Form** worksheet contains a list of erroneous records that did not get imported into Unifier. It is generated automatically as the second worksheet in the error file. It is recommended to not rename or reorder this worksheet.

- **Column A** of the **Main Form** describes the error for each erroneous record.

Note

All line items associated with the erroneous record in the **Main Form** tab will not be validated. Therefore, the error file may not show all errors related to the line items for the erroneous record.

- The following fields/data elements in the worksheet are read-only: **Record Status, Creator, Creation Date, Currency ID, Due Date, Status in WF, BP, Formula Data Elements.**
- Data elements that are set to auto-populate from the sum of all line items data elements from the Integration Validation Form.
- The line item tab order is identical to the order in the selected records.
- Custom date formats are honored.
- The name of the worksheet is translated according to the user's language preference.
- Line Item Tab Worksheets
Line Item tab worksheets with erroneous records are color-coded orange.

Each Line Item tab worksheet is organized as follows:

- **Column A** describes the error for each line item record.
- The line item records and the data elements of each tab display in the same order as in the user interface.
- Each line item record displays begins with read-only fields in the following order: **Record ID, Line Item ID, Record number, and Line No.** These fields cannot be renamed, reordered, duplicated, or removed from the file.
- The formula data elements and auto-populated data elements are read-only fields.
- Worksheet names do not support the following special characters: \ / ? * : [or]

Available Pickers For Business Process Types

The following pickers are available for each business process type in the Line Item tab worksheet:

Business Process Type	Available Pickers
Cost BP(Lineitem with CBS code) -Generic or Transfer	• CBS Picker (It can be in Main Form and all line item tabs) • Auto-populate elements from CBS picker • Work package Picker • BPO Picker • BPO line item picker
Cost BP(Lineitem with Fund Code) - Generic or Transfer	• Fund Picker • Auto-populate elements from Fund picker

Business Process Type	Available Pickers
Cost BP(Lineitem with Fund and CBS Code) - Generic or Transfer	- Fund Picker - Auto-populate elements from Fund picker - CBS Picker - Auto-populate elements from CBS picker - Work package Picker
Cost BP(Lineitem with CBS and WBS Code) - Generic or Transfer	- WBS Picker - Auto-populate elements from WBS picker - CBS Picker - Auto-populate elements from CBS picker - Work package Picker
Cost BP(Line item with CBS Code) - Base Commit of General Spends or Pay app SOV	- CBS Picker (It can be in Main Form and all line item tabs) - Auto-populate elements from CBS picker - Work package Picker - BPO Picker - BPO line item picker
Cost BP(Line item with CBS Code) - Change Commit of General Spends or Pay app SOV	- CBS Picker (It can be in Main Form and all line item tabs) - Auto-populate elements from CBS picker - Work package Picker - BPO Picker - BPO line item picker - Reference - Auto-populate from Reference
Cost BP(Line item with CBS Code) - General Spends	- CBS Code(An SOV Picker and accepts cost codes that are part of the SOV sheet) - Auto-populate elements from CBS Code like Reference Number. - Work package Picker

Viewing the Import Audit Log

1. Navigate to:

- (For BPs at the company level) Go to the **Company Workspace** tab, and switch to **User** mode. In the left Navigator, select **Company Logs**, and select the applicable BP sub-node.
- (For BPs at the project or shell level) Go to the shell tab, and switch to **User** mode. In the left Navigator, select **Logs**, and select the applicable BP sub-node.

The system expands the navigator to show the list of BPs.

2. From the toolbar, select **Actions**, and then select **View Import Audit Log**.

The Import Audit Log for the selected BP type opens. You can view information pertaining to the import process that created the BP, such as the name of the CSV or Microsoft Excel file that was imported, the date that the BP was created and completed, the name of the user who performed the import, and so on.

Filling Out a Business Process Form

To fill out a Business Process (BP) form:

1. Complete the Upper form. Fields marked with a red asterisk (*) require an entry.
2. Add line items, if applicable.
 - If this is a cost or line item-type BP add line items as necessary.
 - If this is a Document-type BP, attach any documents to the form.
3. Add additional information, if applicable.
 - Comments
 - Attachments to Comments
4. When you have completed the form, do one of the following:
 - *If this is a non-workflow BP:*
 - a. Select **Save** to save your changes. Saving the form creates a permanent record.
 - b. Select **Submit** to render the record in view-only mode.
The system uses statuses to track the state of a business process record and any line items it may contain. For example, a Pending status generally means people are still working with the record, while a Closed status suggests the record is complete. Records in Closed status are typically marked as Terminal, meaning the record has reached a point where no further input is either required or desired. You can still access a non-workflow record in a terminal status if the record is in **Edit** mode. However, if you select **Submit** when the record is in a terminal status the record becomes permanently read-only and un-editable.
 - *If this is a workflow BP:*
 - a. Select the **Send** button. At the **Creation** step, sending the form to the next step in the workflow creates a permanent record.
 - If the workflow is not yet complete, the form will be forwarded to the next step in the workflow.
 - If the workflow is complete (that is, your task was the last step of the workflow), the record will appear as complete in the business process log.
 - a. When you send the form, the **Workflow Action Details** window will open. Select an action from the **Workflow Actions** drop-down list. Action selections depend on the BP design, for example, if this is a review step, an action that you may be able to select is "Approve Budget Approval." Selecting a **Workflow Action** activates the other fields of the **Action Details**. If there is only one possible workflow action for a step, the action is auto-populated in the field.
 - b. In **Action Details**, designate assignees for the next step; that is, the users and groups who will receive the record as a task on the next step in the workflow. If the next step is the **End** step, the **To** field will be preassigned. If the Contact Lists feature is enabled for the BP and the step, select the lists in the **Contact List** field.

Use the **Workflow Progress** hyperlink, in the **Action Details** section of a *Workflow BP*, to open the **Workflow Progress** window and view the workflow progress status.

When you accept the task, the form becomes editable. On the editable, or "action," version of a form (belonging to an accepted task), you can see the view form of the business process (**Task Details**). In the view form, you can view the Workflow progress status by selecting the **Workflow Progress** tab in the right pane. This option is available for Workflow records of both company-level and project-level BPs.

Saving a Draft of a Workflow Business Process

At any time while filling out a business process form (whether creating one or responding to a task), you can save your work as a draft and return to it later. The record remains in your Drafts log until you send it.

Note

Saving a draft is only applicable to Workflow type of BP records. For non-workflow type of BPs, saving a record results in creation of a record and not a draft.

To save a draft copy of the workflow business process form:

- From the File menu of an open business record, select **Save**. A draft copy of the form with your edits so far is saved in your **Drafts** log.

To view your drafts:

- Navigate to the Drafts log by doing one of the following:
 - Select **Drafts** under the **Home**  tab. The Drafts log lists all draft business processes.
 - Go to your project or the Company Workspace and navigate to **Drafts** under the **Collaboration** grouping node.

Note

- * Drafts for View-Only and Inactive projects/shells are not listed in the Drafts log.
- * The system displays the **Tasks**, **Notifications**, and **Drafts** functional nodes, in the respective Company Workspace and Project/Shell, based on the deployment of your **User** mode navigators.

To open a draft:

- Select the *gear menu* () next to a record from the Drafts log, and select **Open**.

To delete a draft:

- Select the *gear menu* () next to a record from the Drafts log, and select **Delete**. The draft form will be permanently deleted. A draft is automatically deleted from the log after the record has been sent or otherwise completed.

Accessing Custom Business Process Help PDF File

Your company or your Project/Shell administrator may provide a custom Help file to give you information about a specific business process. This file is provided as a PDF file, which can be read with Adobe Acrobat Reader. If a custom help file is available, it will be listed under the Help menu for the business process log or form.

Adding and Managing Line Items

Detailed information, such as transactions, can be entered as line items on BP records, if they have been designed to accommodate documents that are attached as line items.

You can edit or delete line items on a BP form if the form is still editable; that is, before it reaches its terminal status (for example, approved). If you add a new line item in any step (other than the creation step), you can modify the line item until the BP is sent to the next step. The line item status will always default to the default line item status specified in the design. Users with permission can change the status if modification to the line item status is allowed in that step.

You can add attachments and comments to line items. In addition, you can filter, copy, and consolidate line items.

You cannot change the transaction currency value after you create a BP and send it to the next step in the workflow.

Note

- Document and Line Item BPs can be designed to include line item status control, which allows users to choose a status for individual line items and control whether they can be modified.
- For Cost-type BPs: With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.
- The system supports auto-population of Document Manager properties for line items in Document-Type BP records with and without folder structure.
- If you select a different currency for transactions, the system correctly uses the exchange rates to calculate subsequent information. However, when you view the main form for the approved BP record, the system currently displays the Project Currency Amount field using the applicable symbol for Transaction Currency instead of the symbol for the Project Currency. For example, if the Base Currency for the project is US Dollars (\$) and you select China Yuan Renminbi for the Transaction Currency, the system incorrectly displays the Project Currency Amount using the Yuan symbol (¥) on the main form. If you view the Project Currency by selecting it from View Currency on the Line Item tab, the correct symbol is shown.

Adding Line Items

To add a line item:

1. In a business process form, select a line item tab, and select **Add**. The right pane displays the Line Item Details.
2. Complete the Line Item Details section. You can expand and collapse these information blocks.

If your line item supports attachments, you can add attachments. The Attachments and Linked Records tabs are seen only after you save the line item. See [Adding Attachments](#).

3. When done, select one of the following options:
 - **Save & Close:** To save the information that you have entered and close the window.
 - **Save & Add New:** To save information that you have entered and refresh the window so that you can add another line item.
 - **Cancel:** To discard changes that you have made and close the window.

Editing and Deleting Line Items

You can edit the line items on a BP record only if the design permits modification of line items and if the record has not reached the terminal step.

Note

If the line item contains Yet To Buy (YTB) or AFC values, it cannot be modified.

To edit line items:

1. Select the line item tab.
2. From the left pane, select a line item. The line item details are displayed on the right pane.
3. Update the line items.
4. When done, select from one of the following options:
 - **Save:** To save the information that you have entered.
 - **Save & Add New:** To save information that you have entered and refresh the window so that you can add another line item.
 - **Cancel:** To discard changes that you have made and close the window.

To delete line items:

1. Select the line item tab.
2. From the left pane, select a line item.
3. From the *gear menu* () , select **Remove**.

Note

When a line item is removed, the system removes link information, both from the record the line item belongs to, and from the record that the line item was linked to.

When you edit a line item grid, the row counts (at the bottom left corner of the grid) capture the following actions:

- **New:** The count will depend upon the Add action and the Copy action on the line item. The number gets updated when you add new line items.
- **Deleted:** The count will depend on the Remove action on the line item.

Note

These counts will not appear when the grid is in View only mode.

To edit an image field on a line item grid:

An image field on the grid displays only an image icon; however, you can see a thumbnail of the image if you double-click the icon. If you want to change or remove the image, double-click

the cell anywhere but on the icon. The system displays a menu, from which you can choose to upload a different image or remove the image.

To edit a hyperlink field on a line item grid:

If you want to change a hyperlink, double-click the cell anywhere but on the hyperlink. The system displays the Hyperlink window, where you can change or remove the link.

To edit a checkbox field on a line item grid:

When the field is opened in **Grid View**, it is rendered as a box that you can select or deselect.

If the list of line items is opened in **Form View**, all the line items for a given tab are displayed. Similar to **Grid View**, the checkbox in the line item list is also rendered as a disabled box with the value.

The **Find on Page** option in the grid renders the checkbox field as a text box that lets you type **Yes** or **No**. If you type **Yes**, the system selects the checkbox and the line item associated with the checkbox is displayed along with the selected checkbox. If you type **No**, the system does not select the checkbox and the line item associated with the checkbox is displayed along with the deselected checkbox.

This table lists the sub-types of business processes and locations that allow the edit of line items on cost business processes:

Sub-Type	Shell (CBS Code)	Shell (Generic Code)	Company Workspace	Edit Line Item
Line Item with CBS Code	Yes	No	No	Yes
Line Item with Both Fund Code and CBS Code	Yes	No	No	Yes
Line Item with Fund Code	Yes	No	No	Yes
Line Item with Account	No	No	Yes	No
Line Item with Asset Code	No	No	Yes	No
Line Item with Multiple Codes	No	Yes	No	Yes
Commit at Company Level	No	No	Yes	No

Copy Line Items

You can create a line item by copying an existing line item. You can choose to include any attachments that are on the source line item; however, any links the line item has to other records will not be copied.

To copy line items from the same form:

1. In a business process form, select a line item tab.
2. Select a line item to copy, select , and then select **Copy**.
3. From the **Line Item Details** tab on the right pane, complete all the required fields.
4. Select **Save**.

Filtering the Line Item List

Some business processes can include many line items, and filtering the list of line items can make the form easier to use. To narrow the list of line items you see, you must use the **Search** function. The **Search** function will search for and display specific line items according to the criteria you specify.

To filter the line item list:

1. Open the BP form, and select **Search** () in the line item tab.
The window shows fields from the line item list, which you can use to narrow the list of line items you see.

Each field shows an *operator*, such as "contains" or "equals," which you can use to specify more precisely which line items you want to see on the list.

You can narrow the list of line items to show only certain class levels or cost categories.

2. To specify search criteria, first choose the operator you want to use on the field, such as "equals," "does not contain," or "is empty".
3. Enter the value the field should contain, or click **Select** and select the value from the list that appears.

4. Select **Apply**.
The system displays all the line items that met the search criteria you entered.

If you choose to, you can cancel the filtering action by selecting **[Cancel Search]**, or by selecting **Clear** and then **Apply** in the Search window. The system will restore the list of line items to its unfiltered state.

At the bottom of the screen, you can toggle between **Total Amount** and **Filtered Total Amount**.

- **Total Amount:** (Default) Displays the total amount of all the line items in the entire business process *record*.
- **Filtered Total Amount:** Displays the total amount of only those line items that meet the search criteria. The total of the filtered records does *not* consider the page total of items being displayed in the grid, based on the number of records displayed in the page.

When the search is active, select **Filtered Total Amount** from the drop-down list.

When the search is canceled, the **Total Amount** displays by default.

Example

Consider three line items with the following filtered total amounts for each Spend Category:

Line #	Spend Category	Amount
001	Labor	\$100
002	Materials	\$200
003	Labor	\$300

Case 1: If you search for line items with a Spend Category set as Labor:

1. Specify the search parameter as "Spend Category = Labor"
2. After applying the search filter:

- If you select the Total Filtered Amount option, the **Total Filtered Amount** = \$400.
- If you select the Total Amount option, the **Total Amount** = \$600.

Case 2: If you search for line items with a Spend Category set as Agreements:

1. Specify the search parameter as "Spend Category = Agreements"
2. After applying the search filter:
 - If you select the Total Filtered Amount option, the **Total Filtered Amount** = \$600.
 - If you select the Total Amount option, the **Total Amount** = \$600.00.

In the second case, because none of the line items matched the search criteria for Agreements, the Total Amount and the Total Filtered Amount values are identical.

If you cancel the search, then the **Total Amount** (option selected) = \$600.00 and the **Filtered Total Amount** = \$600.00

Note

There is no page total. The user has the option to select between the above two mentioned totals.

Line Item Consolidation

Business processes (BPs) can be designed to accommodate line item consolidation: the ability to select individual line items from one or more BP records (the source BPs) and copy them into a new record (the destination BP). The selected line items can be from the same BP type, or they can be from different types, if they are compatible. The source and destination BPs must be at the same level (both at company level or both at project/shell level), and you must be a member of the shell in which the targeted BP source and destination records reside. File attachments can also be copied. For example, this functionality can be used to consolidate specific line items from multiple change order requests submitted over a period into a single change commit.

This functionality is built into BPs through the design, which includes specifying which BPs can be used for the source and destination. Also, the ability to filter the BP records that can be consolidated (by status) can be added. This enables you to filter the records you see in the list to consolidate by the record status, allowing you, for example, to exclude records that have the status of Pending or Rejected.

Note

Line Items can be edited after consolidation, if your administrator has enabled it by deselecting the **Prevent consolidating the same line item across multiple records** checkbox.

There are some restrictions when consolidating line items from different BP types.

The top pane of the Line Item Consolidation page is used to select BPs and records, and the bottom pane is used to select the line items. Pagination in the top and bottom panes is seen only if the number of records and line items (in both available and selected panes) exceeds 1000 and 200 respectively. You can expand and collapse the top and bottom panes.

Top Pane Toolbar Options

Toolbar Options	Description
Select Business Process	Lists all BPs that allow consolidations.
View	Lists views defined for the selected BP. This drop-down menu is context-sensitive based on the selected BP.
Search	Enables you to search for specific line items. Search parameters seen here are based on the Find parameters set for the line item list. Search is performed on the database and works across all pages.
Find on Page	Enables you to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
Consolidate from other locations	Lets you access a Shell Picker window that lists the shells of which you are a member. Select a shell.

Bottom Pane Toolbar Options

Toolbar Options	Description
Select Tab	For a non-workflow BP, displays the line item tabs visible in the form. For a workflow BP which may contain different workflows with different forms (Active or View) in the End Step of each workflow, it displays the line items tabs associated with the form (Active or View) selected in the Reference Form field by your administrator. Select a tab.
Group By	Group line items by column header. This drop-down menu lists all log columns for the selected log view of the BP. By default, the <record_no label> is selected.
Search	Enables you to search for specific line items. Search parameters seen here will be based on the Find parameters set for the line item list. Search criteria defined for each for each tab's log layout will appear as search parameters. Search will be a database search and will work across all the pages.
Find on Page	Enables you to find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
Include Attachments	This option is selected by default. When this option is selected, all attachments included in the line items are also copied over.

To consolidate line items:

1. Select a line item tab.
2. From the toolbar, select **Actions**, and select **Consolidate Line Items**.
3. From the **Select Business Process** list, select a BP.
4. Select one or more BP records in the **Records from All Locations** section.
5. From the **Available Line Item List** pane, select the line item tab.
6. Select the line items, and select the arrows to move it to the Selected line Items pane.
7. Select **Done**.

Additional Information:

- If you open a record from the shell and try to consolidate line items, you will see the shell picker (BP location picker).
- If you open a record from a project, when you try to consolidate line items, you will not be able to see the BP location picker.
- If you are opening the record at the company level, when you try to consolidate line items, you will not be able to see the BP location picker.
- If a BP Data Picker was added to the Upper Form for the BP that is being consolidated, it is hidden. The system uses the query associated with the BP Data Picker to filter the records that can be consolidated. Line item consolidation displays records across all projects and shells for the source BP that is associated with the projects and shells.
- If there is a source BP that is associated with a data picker, the system hides the shell location picker.
- If the records are displayed based on data picker configuration for a shell, the “Records from [Shell Name]” label changes to “Records from All Locations” label.

You can consolidate line items that have Line Item Data Pickers. While copying, the system runs the query condition defined for the Line Item Data Picker, under the destination business process configuration.

- If the query condition does not return the value that is getting copied, the Line Item Data Picker value will not be copied over.
- If the query conditions are met, only the Line Item Data Picker value will be copied in to destination line item and any other auto-population based on this picker will be populated.

If the tab is hidden in the destination BP Line Item Data Picker and you are copying line items from another BP record where the Line Item Data Picker has that tab line item selected, the line item will be copied without the picker value.

The Line Item Data Picker value from the source line items cannot be copied in to the destination if in the destination the record BP Data Picker has a different record or no record selected.

- When consolidating line items from a Cost BP to a SPA type commits BP, if the Cost Line Item Type in the source BP record is the Variable Unit Cost, and the destination design does not have the `uuu_quantity` and the `uuu_unit_price`, the system will display this message: Cost Line Item Type of Variable Unit Cost cannot be created. Detail Form design for this tab must include the data elements `uuu_unit_price` and `uuu_quantity`. The functionality is the same in the case with the auto-creation of the SPA commit record, from non-SPA BP.
- When consolidating line items, from a non-SPA BP to SPA type commit BP and in the destination if the amount data element is not defined as formula of `uuu_unit_cost * uuu_quantity`, the amount value in the copied line item will be zero (0).
- Validations to be considered when consolidating or auto-creating line items into SPA BP:
 - The costed amount total must be equal to the line item amount, based on the form properties in the design.
 - All the fields that are marked as required must have data in the destination line item.
- When the line items are auto-created from a non-SPA BP, if the CBS Code does not exist in the destination, the BP record will be created in the I-step. In this case, only the summary line will be created.

Grouping Line Items

If your BP design allows adding or copying of line items, you can also choose to group line items into meaningful categories. You can select one or more line items to add to a group and each group displays the line items under it. The groups are displayed in alphabetical order, and the line items that are not part of a group are displayed under the group **Not Grouped**. You can change the name of the groups and move line items between groups. When a record or line items are copied, the groups are also copied.

Note

- The Manage Groups option is available for Line Item and Cost BP types. The Manage Groups option is not available for SOV type BP (Summary Payment Applications).
- By design, you cannot move a group from the Selected Columns section to the Available Columns section.

To create a group:

1. After the line items are created, open a business process record, and select a line item tab (for example, **Line Item List** tab).
2. Select one or more line items.
3. From the toolbar, select **Actions**, and select **Manage Groups** to open the **Manage Groups** window.
4. In the **Manage Groups** window, select **create button**  to create a group on a new row.
5. Enter a name and description for the group.

Note

Avoid using the "<" character while naming a group.

6. Select one of the following options:
 - **Cancel**: If you make any changes to the groups and select **Cancel**, the window closes without any changes saved.
 - **Save**: If you make changes and select **Save**, your changes will be saved, but the **Manage Groups** window will still be available to make more changes.
 - **Save & Close**: If you make changes and select **Save & Close**, your changes will be saved, and the **Manage Groups** window closes.

To edit group property:

1. From the line item tab, select a group by hovering over the group name.
2. From the *gear menu* () , select **Edit Group Properties**.
3. Change the name or description of the group, and select **Save**.

Note

Avoid using the "<" character while naming a group.

You cannot change the properties of the default group **Not Grouped**.

To add line items to a group:

1. Open a business process record, and select a line item tab.
2. Select one or more line items. To select multiple line items, you have to select **Cancel** or **Save**.
3. From the *gear menu* () , select **Add to Group** and select a group.
The group line item will appear at the top of the line items area of the business process form in bold. The **Amount** column will show the sum total of the line items you added.

If a line item has been copied and the copy source is already in a group, the new copied line item will be in the same group.

If the option is enabled, in the **Line Items** tab, the **Amount** column displays the total amount (only the amount value).

To remove line items added to a group:

Select a line item and from the *gear menu* () , select **Add to Group** and select **Not Grouped**. You can also choose to move line items to other groups.

To manage groups:

From the toolbar, select **Actions**, and then select **Manage Groups** to open the **Manage Groups** window and display all the existing groups, excluding the Not Grouped items. The sorting order is ascending, by default.

The **Manage Groups** option is only available for Line Item type BP and Cost type BP (excluding the SPA type BP). When there is a flat list of line items in line item log, the **Manage Groups** option is not available. The **Manage Groups** option is available when there is at least one group available to select.

In the **Manage Groups** window, you can delete existing groups by selecting a row and then selecting **Delete** . To move the groups to the Not Grouped Items, you can select multiple groups, select the *gear menu* () , and select **Remove**.

The groups are sorted in alphabetical order. The sort order of the line items within the group will be governed by the Line Item List Sort as set in uDesigner.

To expand or Collapse Groups:

From the line items tab, select the  **Collapse all Groups** or  **Expand all Groups** icons.

To create line item groups by using CSV:

You can group line items by CSV import.

The system inserts an additional column in the CSV file, **Tab Name**, D row. The cell under the **Group Name** column contains the line item group name. It is optional to enter a value. The column is provided so that you can assign line items to the groups, at the time of creation.

When you import a line item, if the group name that you enter in the template exists in the record, the system adds a line to the group.

If the CSV template has multiple line items, and if a few lines have **Group Name** value and others do not, the ones with the empty **Group Name** will be in the "Not Grouped" group at runtime.

If the CSV template has no **Group Name** specified for any of the line items, the line items will not be grouped.

Example

In the CSV template below, the user is attempting to create a Daily Report record.

The user has entered H for the upper form details and wants to create the record with line items in Equipments, Materials, and Visitors tabs.

1. Six line items have been entered against the Equipments tab, and four of the line items belong to a Group called "All Equipments." The subsequent columns in the D rows pertain to the line item details.
2. The two line items that do not have any group mentioned will go under "Not Grouped," post import.
3. The two line items have been entered for the Materials tab. Post a successful import, the group "Reinforcements" will be created.
4. One line item has been entered against the Visitors tab, and the user does not want to group this one line item. As a result, the Group Name value has been left blank, intentionally.

Import Business Process Records								
Note: Do not change column structure								
Do not enter symbols, such as currency or digit grouping, in the numeric fields.								
Enter a negative numeric value using these formats only: -123456.99 or -123456,99.								
Please enter the attachment names separated by ";" in the next available column after the last data element present for Record or Line Item respectively.								
Equipment	Description		Model		Type	Item Quantity	Work Area	Remarks
Materials	Description		Item Quantity		Remarks	Short Description	Delivery Time	Material Name
Visitors	Remarks		Short Description		Time	Company Name of V	Visitor Name	Company Represen
Workforce	Work Area		Remarks		Source	Short Description	Contractor	Work Performed
Note: Detail will be listed as D with union of all elements across tabs								
H	Record Number	Title	Creator	Creation Date	Due Date	Contract Reference	Superintendent	Daily Activity Date
D	Tab Name	Group Name	Description	Model	Type	Item Quantity	Work Area	Remarks
H		Daily Report for 03/07		3/8/2018				
D	Equipments	All Equipments	Starmark Partners BackH Hyundai		Backhoe		1 East Wing	
D	Equipments	All Equipments	Starmark Partners Dippe CAT		Dipper		1 East Wing	
D	Equipments	All Equipments	Starmark Partners Excav CAT		Excavator		1 East Wing	
D	Equipments	All Equipments	Starmark Partners Digge CAT		Digger		1 East Wing	
D	Equipments			Power Generator	Electrical		5 East Wing	
D	Equipments			Battery Backup	Electrical		10 East Wing	
D	Materials	Reinforcements		ACC concrete	Cement		100 East Wing	
D	Materials	Reinforcements		Steel	Steel High grade		East Wing	
D	Visitors	Workforce						25 East Wing

Viewing Groups when Referencing Line Items by Way of Line Item Data Picker

You can create line item groups under each line item tab in a business process record and view the line items by group. When referencing a line item within a source BP record, you can also select a line item (from the line item data picker) that belongs to a specific group (for example, contract type). This is, if your selected source record line items have groups, the line item data picker shows the line items along with the group names; otherwise, a flat list of line items (that match the query conditions) is displayed.

In the line item data picker:

- The groups are displayed in ascending order.
- The line items that do not belong to any group will be displayed under "Not Grouped" column, similar to the line item log.
- In a line item data picker, when line items are filtered using query conditions defined for your environment, group names should be shown along with filtered line items. The same behavior is applicable if additional user filters record using Search or Find on Page in the line item data picker.

- When line items are filtered (using query conditions defined for your environment), the group names are displayed along with the filtered line items. The same condition applies if you filter a record using the **Search** or **Find on Page** options in the line item data picker.

If you select a group node in the line item data picker, the select option will not be enabled; therefore, you cannot pick a group from the line item data picker.

The type-ahead feature of the line item data picker displays:

- Display element value
- Line number
- Group Name

Adding Line Item Attachments

After a line item is in the process of creation, the **Attachments** tab will be available in the right pane.

To add an attachment to a line item:

1. Go to the business process, and select the **Line Items** tab.
2. Select **Add** to create a line item.
3. On the right pane, select the **Attachments** tab.
4. To select a file from your computer, select **Add Attachment**, and then select **Browse**.
 - a. Drag and drop files from your computer, or select **Browse** and navigate to your file.
 - b. Select if you want to revise the file automatically if a file with the same name exists.
 - c. Select **Upload**. The date and time that the attachment upload is also displayed.
5. To select a file from Document Manager, select **Add Attachment**, and then select **Document Manager**.
 - a. Select a file. You can use **Find on Page** to help you find a file. You can expand and collapse the document structure to navigate to your file.
 - b. Select the **Copy Comments** checkbox to copy the comments that are associated with the file you are attaching.
 - c. Click **Select**.

Removing Line Item Attachments

The ability to remove an attachment depends on certain conditions. When you are assigned to a task that has a line item attachment, you can remove the attachment *if you have uploaded the attachment yourself*; otherwise, only the record owner (the creator) of the Business Process (BP) record can remove the attachments.

Note

If you are working in the Classic View, you (the assignee) can delete attachments uploaded by yourself as well as deleting attachments uploaded by other assignees, users after the current user (you) accepts the task.

To remove a line item attachment:

1. Go to the business process, and select the **Line Items** tab.
2. Select a line item from the log.
3. On the right pane, select the **Attachments** tab.
4. Select the *gear menu* () , and select **Remove**.

Impact of Unique Values on BP Line Items

When a business process is configured to have unique line item data elements in any tab, it impacts how the BP record is processed in the following situations:

Existing Records

For existing records:

- Uniqueness is checked only for new BP records, or for new or edited line items within existing records.
- Existing line items in any existing records are not checked for uniqueness when new line items are added or existing line items are updated within the record.

Record Copy

When you attempt to copy an existing record with duplicate values for the data element, the line items are not populated in to a new record.

- For Workflow business process records, the record is created and the upper form data elements are populated, However, line items are not added to the record.
- For Non-workflow business process records, the record is not created.

Line Item Consolidation

When line items are consolidated and they result in duplicate values, an error message is displayed and the line items are not added to the BP record.

BP Record Autocreation

If a record with duplicate values for the data element is configured for autocreation, record creation will not pass the initiation step (I-Step). Contact your administrator to resolve the duplication and advance the record.

Line Items with BP Line Item Creator

If a BP Line Item creator is configured to create line items within a business process that has uniqueness configured on a line item data element, if any of the line items being created results in duplication within the record, then none of the line items are created.

Using the Grid View

When managing line items within a business process record using the Grid view, it is important to save the record between any copy and delete actions to ensure validations related to line item unique data elements are processed successfully.

Restricting Line Items by Using Copy with Conditions Option

You can use the **Copy with Conditions** option (from the *gear menu* [⚙️] next to the record) to copy a specific line item, rather than copying all line items. You can also use this option to:

- Include, or exclude attachments
- Include linked records
- Retain or remove references to auto-created records or line items

These copy options are set up by your administrator and will appear in a list that you can choose from.

If no copy options have been created, the Copy with Conditions submenu option will be disabled.

To restrict line items using the Copy with Conditions option:

Note

The following is applicable to Company, Project/Shell, and master logs. This option is not available in the **Tasks** log.

1. Select a BP and open the BP log.
2. Select the *gear menu* (⚙️) next to the record that you want to copy, and select **Copy with Conditions**.
3. Follow the prompts to complete copying your record for use.

Adding and Managing Line Items Using the Grid View Feature

For Line Item business processes, the system provides a grid feature (**Grid View**) that shows the line-item entry form in a lateral sheet view, where you can enter the data directly without having to open a line item form. In this regard, the sheet works the same way the line-item entry form works—rows might not be editable because of their statuses, auto-populated fields will be filled in for single-record BPs, if a yet-to-buy amount has already rolled up from a cost BP to the cost sheet, you will not be allowed to modify the line item, and so on.

Note

The Grid feature is best used for short line items.

The following shows the Standard View of the Grid View:

Estimates

Estimate Line Items

Add Add Refresh Print Search Filter

No.	WBS Code *	Code Name	Cost Type	Spend Category	Short Description *	Work Package	Description
003	01100	Summary	Capital	Services	A2 345		
002	01900	Facility Decomi...	Capital	Labor	Labor for Facility ...		
001	16500	Lighting	Capital	Labor	lighting 30%		
TOTAL							

Total: 3

If a line item has any attachments, you will see an **Attachments** icon  next to the line item number, which you can select to view a list of all attachments connected to the line item. If a line item has been linked to another business process record, a link icon will appear in the column directly to the right of the attachments column. If you scroll to the right, you can see the total amount of all line item attachments in the BP record.

Note

Attachments, linked records, and the Total Amount will only be visible if the BP has been designed to allow these line item fields.

The grid feature (**Grid View**) shows the line item number and all the fields on the line item entry form, including fields that are required, formulaic, or populated, as well as fields that are part of a dynamic data set. The fields on this grid work the same way they do on a line item entry form—pickers display picker windows, menus display lists, formula fields produce calculations, date picker fields display calendars, and so on; however, radio buttons will appear as drop-down (pull-down) menus, and image, hyperlink, and BP Creator fields have special behaviors. The Total field displays the total for the entire record (including line items in one or more multiple pages). If you use a filter or perform a search, then the Total field displays the total of the results from the filtered line items.

You can resize the columns by dragging, and sort the data by column (except for Row and image fields). You can use the **Tab** and arrow keys to move from field to field and open them. For business processes that include many line items, you can use the **Search** function to filter the list to display only certain line items.

The grid feature (**Grid View**) is not available on:

- RFB bidder forms
- Line Item with CBS Code BPs (Transfer classification)
- Standard tab of Payment Application Line Item with CBS Code BPs
- Line Item with Asset Code BPs

- Line Item with Multiple Codes BPs (Transfer and Lease classifications)
- Simple type BPs
- Text type BPs
- Document type BPs with Folder Structure
- Resource Booking type BPs for project/shell
- Project/Shell Creation BPs (Simple sub-type)

What is not available on the grid:

- Summary row functions: Summary line items do not appear on the grid and cannot be created on the grid. In addition, line items within the summary do not appear.
- Transaction currencies
- Line item consolidation
- Import function

Behavior Set DEs in the Grid Feature

Because fields displayed in the grid feature (**Grid View**) can come from DDS, the behavior set DEs can be seen in the grid. If you select **Disabled and Clear** for a behavior set that is present on the grid, the updated value is displayed in the grid. This value is either populated with a value or left blank.

Last One to Save Over-Writes Other Edits (Except for Deleted Rows)

The Grid feature can be used simultaneously by multiple users. To accommodate multiple editors using the grid simultaneously, the commit order of saved edits is on a line-by-line basis, not on the entire grid view. If two users are editing the same line item, but different fields, at the same time, the edits made by the last user to save that line item are the edits the system will commit to the record.

For example, if User 1 changes an amount field from 15,000 to 23,000 and saves the change, and User 2 changes a different field, but does not touch the amount field, when User 2 saves the grid, the system will commit User 2's edits; and the amount field will show 15,000 rather than 23,000.

The order of saved edits is particularly important for deleted rows on the grid. After a row is deleted, it cannot be reinstated with a later edit. For example, if User 1 deletes a row and saves the grid view, and User 2 changes the amount field in that row from 15,000 to 23,000 and saves the grid view, the row will **not** be reinstated with the new amount of 23,000.

Error messages

If the system detects errors when you save line items, error messages will appear in a pop-up window, with a red x marking which line item contains the errors.

Add Line Items using the Grid

1. On the business process form, select the tab containing the line items you want to add to.
2. On the Line Item window, select **Grid**. The Grid window opens, showing a new, empty row at the bottom of the list to use for the new line item.
3. To enter data into the grid, double-click a cell in the new row. The cell opens for editing.

As soon as you begin adding a line, a change icon appears in the first column as a reminder that a line item has been added to the record, and the **Save** button becomes active.

4. Fill in the fields on the grid as necessary.
5. (Optional) To include an attachment to a line item, select **Attach** in the right pane. Select either **Browse**, to attach a file from your computer, or **Document Manager**, to attach a file from the document manager.
6. To save the line item to the record, select **Save**.
When you save the line item, the system:
 - Refreshes the grid view.
 - Removes the change icon.
 - Adds the line item to the list.
 - Inserts a blank line at the bottom of the list for another new line item.
 - Updates the line items on the business process form.
 - Updates summary if configured to do so.
 - Line item summaries, for totals and summary averages, update in real time.
7. To add additional line items, repeat steps 3 through 6.

Link Line Items to other Business Process Records

After you begin the process of creating a line item, you can link the line item to a business process record in the **Linked Records** tab.

To link a line item to a BP record:

1. On the BP form, select the tab containing the line item you want to link to a record.
2. Select the line item you want to link, and select the **Linked Records** tab in the right pane.
3. Select **Add**. The Add Records window opens.
4. Move records from the **Available Records** list to the **Selected Records** list with the arrows between the two lists. You can narrow your search with the options in the top toolbar.
5. Select **Done**.

When you link a business process record, the Linked Records tab shows the Current View for all records and provides the following details:

- Direction
- Type
The contents of the Type column indicates whether the linked record has been associated automatically (by way of Line Item Consolidation), or manually (by way of manual linking).
- Business Process
- Record Number
- Record Title
- Record Location
- If the BP is a company-level BP, the Record Location shows the Company Workspace tab name.

- If the BP is a Project-level BP, the Record Location shows the Project name.
- If the BP is a Shell-level BP, the Record Location shows the Shell location.

Note

- You cannot remove the link Type: Line Item Consolidation.
- If there are multiple line items consolidated from the same BP record, the BP record will be seen as a linked record for that many line items.
- If the line item with the link Type: Line Item Consolidation moves to the status, "Previously consolidated lines are available when terminal status equals" in uDesigner or is terminated, the link will be automatically removed.
- If using a Detail form, select Linked Records in the lower-right corner of the Detail form. You do not need to save the line item to link a record.

Edit Line Items using the Grid

To edit line items using the line item grid:

1. On the BP form, select the tab containing the line items you want to edit.
2. Select **Grid View**.
3. On the Grid, double-click the cell you want to edit. The cell opens for editing. As soon as you begin editing, a red change icon appears in the first column as a reminder that the line item has been modified, and the **Save** button becomes active.
4. Select **Save**.
When you save the line item, the system refreshes the grid view, removes the change icon, and updates the line items on the BP form.
5. To edit additional line items, repeat steps 1 and 2.

Note

- When editing the element of Dynamic Data Set, use the drop-down list to select the values or labels.
- When editing the element of Multi-line Text Data Element (DE)/field, use the text box to conduct your in-line editing. You can change the width of the box, but the height of the box is set according to the DE properties (that is, Number of lines).

When you edit a line item grid, the row counts (at the bottom left corner of the grid) capture the following actions:

- **New**
The count will depend upon the **Add** action and the **Copy** action on the line item. The number gets updated when you add new line items.
- **Deleted**
The count will depend on the **Remove** action on the line item.

NOT_SUPPORTED

These counts will not appear when the grid is in view only mode.

To edit an image field on a line item grid:

An image field on the grid displays only an image icon: however, you can see a thumbnail of the image if you double-click the icon. If you want to change or remove the image, double-click the cell anywhere but on the icon. The system displays a menu, from which you can choose to upload a different image, or move the image.

To edit a hyperlink field on a line item grid:

If you want to change a hyperlink, double-click the cell anywhere but on the hyperlink. The system displays the Hyperlink window, where you can change or remove the link.

To edit a checkbox field on a line item grid:

When the field is opened in **Grid View**, it is rendered as a box that you can select or deselect.

If the list of line items is opened in **Form View**, all the line items for a given tab are displayed. Similar to **Grid View**, the checkbox in the line item list is also rendered as a disabled box with the value.

The **Find on Page** option in the grid renders the checkbox field as a text box that lets you enter **Yes** or **No**. If you enter **Yes**, the system selects the checkbox, and the line item associated with the checkbox is displayed along with the selected checkbox. If you enter **No**, the system does not select the checkbox, and the line item associated with the checkbox is displayed along with the deselected checkbox.

Insert a Row into the Grid

Inserting a row in the grid can be convenient if you have a long list of line items. The system automatically opens a new line item at the top of the list, but if the list is long, it can be more convenient to insert line items wherever you are in the list. When you save the grid view, the system re-sorts the added rows into their proper place.

To insert a row or rows:

1. On the Grid, select a row, and select **Add** on the toolbar.
To insert multiple rows, select **Add** again. The system inserts the row(s) below the row you selected.
2. Fill in the line item fields, and select **Save**.
The system reassigns the line numbers as follows:
 - If any rows have been deleted during an edit, the line numbers are reused so that the line numbering remains continuous. (*Exception:* If the amount on a CBS line item has been rolled up to the cost sheet, the line number will not be reused.)
 - After deleted line numbers have been reused, any new line items are assigned numbers in ascending or descending order, depending on how the sort order was specified when the Item log was created.

Manually create a business process from the Grid

A BP Creator field configured for automatic creation mode will appear as a read-only field on the grid. But if the field is configured for manual creation, you can set up the business process

creation from the Grid. The new business process will be created when you finish editing the form, or send the form on to the next step in the workflow.

To manually create a business process from the Grid:

1. Double-click the BP Creator field.
The field will display the words "**Pending Creation.**"
2. Select **Close Window** to close the Grid and return to the form.
3. On the form, select **Submit** (if this is a non-workflow BP) or **Send** to send the BP form on to the next step in the workflow.
The system creates the business process. After the business process has been created, this field will show a hyperlink to the new business process.

To prevent a business process from being created:

1. Double-click the BP Creator field.
The field will display the words "**Pending Creation.**"
2. Double-click the BP Creator field again.
The system clears the text from the field and will not create the business process.

Copy a Line Item on the Grid

1. On the form, select the tab containing the line item you want to copy.
2. On the Line Item window, select **Grid**. The **Grid** window opens
3. Select the line item (or items, using the **Ctrl** key) you want to copy, and select **Copy** in the *gear menu* (⚙️).
4. The system pastes the copied line item(s) into the row(s) above the selected line. Edit values in each column as necessary.
5. Select **Save**. The system rennumbers the line item(s) with the next incremental number(s) and updates the line items on the form.

You can copy cell values by way of:

1. Dragging cell value
When you select a field (cell) in a line item grid that is editable, the system displays a small blue square icon (indicator) on the lower-right corner of the cell. The indicator is available for fields that are editable.

You can drag the indicator to copy the cell value onto the cell below. After you copy the value, the value in the recipient cell appears as modified (the font will be purple in color, and the format will be italic).

When you drag the cell values for multiple cells, the pattern of values of the copied cells will also be copied.

If you select two cells and drag the values into three cells, the system will replace the value of the third cell with the value of the first cell that was copied.

2. Changing cell value
When you want to change the value of a field (cell) that is editable in multiple line items, use the **Shift** key to select the consecutive (adjacent) line items, select the cell, in one of the line items, enter the value that you want, and select **Enter**. You can use the **Ctrl** key to select inconsecutive (not adjacent) line items.

Note

The search functionality is not available when the grid is being edited.

Adding and Managing Line Items in Document-type BP Without Folder Structure

Creating a Document-type Business Process Line Item Record

You can create a Document-type BP line item record:

- Through **Form View** (a single line item and without importing attachments):
 - You cannot submit the record to the next level without completing the required fields. If you try to save the line item without completing the fields, the system will not create the line item.
- Through **Form View** (importing attachments):
 - You can submit the record to the next level without completing the required fields, in the line item, by way of the “import attachments” option.
 - When you open the same line items that were created in the Form View, from the Grid View, you can send the record to the next level without completing the required fields.
- Through **Grid View**:
 - You cannot submit the record to the next level without completing the required fields for a single line item or for multiple line items created through bulk upload.

Adding and Managing Comments

Business processes (BPs) provide a general comments section that allows you to add text comments that are like notes that accompany the BP but do not become part of it. When you receive a BP record for review that includes Form Documents, all files uploaded within the form are displayed and available for review (standard attachments are not displayed). In addition to downloading a document, you can open the document and complete a review by clicking the link in the applicable field on the BP record.

Depending upon the workflow setup and your permission settings:

- During the Creation step, you can specify whether to prevent users from adding or deleting hidden comments.
- You can hide comments entered by other users.
- You can add, update, hide, display, or delete your own comments.
- You can attach supporting documents to your comments, which do not become part of the attachments of the BP itself, or mark up attached documents. See [Working with Required Documents, File Attachments, and Markups](#).
- You can add general comments if you are a task assignee or if you have been copied (cc'd) on the BP.
- You can add comments to a BP at the **End step**, and also at any status in a workflow, including **Terminated** (which means the BP was stopped at some point in the workflow). To add comments at those points in a workflow, you must have the **Add General Comments** permission.

Note

Some users, such as project managers, may have an additional permission that allows them to add general comments to any form (workflow or non-workflow) that they can view, without accepting the task.

You can add comments if you are not a task assignee, provided that you have the following permissions for BP records:

- **View**
- **Add General Comments**

In this scenario:

- You can only add general comments when the BP record is in View mode.
- You will not be able to hide comments. The Hide Comment option is available for task assignees who are working on an accepted task (an Action form associated with the workflow step).

Add Comments to a Business Process Form

When you add a new comment to a business process form, it remains as a draft until you send the form to the next step in the workflow. Comments are editable in the draft stage; you cannot modify the comment after it has been sent to the next step. Comments that are in draft mode can be edited by right-clicking the comment and selecting **Edit**. By default, comments you post are automatically hidden; you can deselect the **Hide** box to make comments public. Private draft comments have the following hidden icon  next to them; when the record moves to the next step in the workflow, the hidden icon changes to red .

To add comments to the business process form:

1. Open a business process record.
2. Select the main form (**Record Details**) tab.
3. From the right pane, select the **Comments** tab.
4. Enter your comments in the **Comments** box.
5. To add an attachment to a comment from your computer, select **Attachment** , and then select **Browse**.
 - a. Drag and drop files from your computer, or select **Browse** and navigate to your file.
 - b. Select if you want to revise the file automatically if a file with the same name exists.
 - c. Select **Upload**.
6. To add an attachment from Document Manager, select **Attachment** , and then select **Document Manager**.
 - a. Select a file. You can select **Find on Page**  to help you find a file. You can expand and collapse the document structure to navigate to your file.
 - b. Click **Select**.
7. Deselect the **Hide** checkbox to post a public comment.
8. Select **Post**.

Note

The Comments box does not recognize formatting, including line breaks. Even if you press the Enter key to make a new line in the Text Comments section, the final comment will not reflect the new line.

If the **Comments** tab of the business process form contains any comments, a **Comment**  indicator is displayed. If the tab contains no comments, the right pane is refreshed and the indicator is no longer displayed.

Copying Comments

To copy your comments:

1. From the Comments tab, right-click a comment, and select **Copy**. A new comment row is created.
2. Use the **Comments** box to add or edit the comment.
3. To add attachments, select **Attachment** , and select **Browse** or **Document Manager**.
4. Select **Post**.

Note

- Select an attachment to open it.
- To download an attachment, select the arrow next to the attachment and select **Download**.
- To delete an attachment, select the arrow next to the attachment and select **Delete**.

Add Comments to a Document Type Business Process

To add comments to a document type business process:

1. Open the document.
2. On the right of the screen, there will be a **Comments** widget. Enter your comments in the **Comments** box.
3. To add an attachment to a comment from your computer, select **Attachment** , and then select **Browse**. Open a file from your computer.
4. To add an attachment to a comment from the document manager, select **Attachment** , and then select **Browse**. From the Document Manager, select the file that you want to attach.
5. Select **Post**.

This process also applies to documents attached to business process records.

Note

If the document type BP has been designed to use line item status, and a specified status has already been reached (for example, approved), the line item may no longer be editable, and you may not be able to add comments to it.

View Comments

To view comments:

1. Open a business process record.
2. Select the **Comments** tab from the right pane.
A list of comments is displayed on the right pane. The name of the user who posted the comment, the company name of the user, and the timestamp when the comment was added or updated are displayed. You can also view the attachments associated with the comment. When the tab is expanded, the left pane displays the grid and the right pane displays the content of the selected comment.
3. To filter the comments, use the **Posted By** drop-down menu to view comments by a specific user or by all users.

Edit or Delete Comments

Comments on a business process record are displayed in the **Comments** tab.

When you add a new comment to a BP form, it remains as a draft until you send the form to the next step in the workflow. Comments are editable in the draft stage; you cannot modify the comment after it has been sent to the next step. Comments can be deleted after being sent, only if the BP workflow has been set up to allow deletion of comments.

To edit a comment:

1. From the **Comments** tab, select a comment.
2. Right-click a comment, and select **Edit**.
3. Update your comments.
4. Select **Post**.

To delete a comment:

1. From the **Comments** tab, select a comment.
2. Right-click a comment, and select **Remove**.
Deleting a comment will create an entry in the **Audit Log** tab for the business process.
 - The Date column will list the date that the comment was deleted.
 - The Event column will state that this event occurred in the comments of the business process.
 - The Action column will state that the comment was deleted.
 - The New Value column will list the comment that was deleted.

Hide Comments

You can hide comments that you do not want to be generally viewed on workflow business processes. If you have permissions, you can view previously hidden comments. Other users will not be able to see the hidden comments unless they have the View Hidden Comments permission set, and using that permission, can also unhide the hidden comments. As the creator of the comment, you can view your own hidden comments, whether or not you have the View Hidden Comments permission (until the comments are published).

Note

Hidden comments are never included in the PDF attached to emails, regardless of a user's view permissions.

To hide or unhide comments:

1. From the **Comments** window, right-click the comment, and select **Edit**.
2. Select the **Hide** checkbox.
3. Select **Post**.

Note

Due the nature of end steps, you cannot hide or delete comments on the end step of the workflow, even if the end step is an action (editable) form.

Working with Query-Based Tabs

Query-based tab (QBT) enables the user to:

- View a filtered list of business process records associated with the parent business process.
Once the QBT in a business process is correctly configured and deployed, the QBT appears in the business process for which the QBT has been configured.
- Create a new business process from the QBT in the same Project/Shell, where the parent business process resides.
Users can create new business process records from the QBT provided that the users have permission to create business process records for the Project/Shell that contains the business process.
- Copy a business process in the same location as the parent business process.
Users can copy a business process either with or without attachments. In addition, a user can copy any of the records in the QBT and create a new business process record.

Note

- Only one record at a time can be copied.
- You cannot copy attachments for document BPs. Line items of records are treated as attachments, so details of line items and forms are not copied to document-type BPs.

When the user copies a business process record to create a new business process, the new business process record contains all the information present in the copied/based business process record. So, in case of business records with attachments, the user has the option of including or excluding (copying or not copying) the attachments when copying a business process record.

- Search for business process records based on user-entered criteria. Users can find any record from the list of records included in the QBT.

Note

- The fields available for the Find feature must be defined for the business process.
- The source Business Process/Space/Level of the QBT must be active for the tab to display.

Using or Viewing a Query-Based Tab

To use or view a Query-Based Tab (QBT):

1. Navigate to the parent Business Process log in your Project/Shell.
2. Open a record to view the QBT.

Note

The source Business Process/Space/Level of the QBT must be active for the tab to display.

3. Select New or Copy to create a record. The new record will display if query conditions are met.

As a pre-process to defining the Query tab in the business process (applicable for Line Item, Cost, and Document-type business processes), you must use a reference picker in one of the upper forms of the business process, Space, or Level from where you want to create the Query tab. For defining a Query tab, select the **Query Tabs** link in uDesigner, select **New**, and select a business process, Space, or Level. The system allows you to create a maximum of 8 tabs in uDesigner, including the QBT.

Format of the Currency for Query-Based Data Element (QBDE)

When the values for the query conditions are set, you can see the QBDE values according to the values that had been set up in the **Modify Data Element** window (selecting, or deselecting, the **Hide Currency Symbol in Cost type Business Process** option). Go to your project (**User mode**), and select the item.

When you open the record, you will see the same QBDE value in the user interface. You can print the record. In the Classic View, the **Upper Form** contains the values, accordingly.

Note

When using QBDE, be aware that query elements are rounded off to use two decimal places, even if the Base Currency and various defined currency fields are different.

Administrator

Go to the **Company Workspace** tab, and switch to **Admin** mode.

In the left Navigator, select **Configuration**, and then select **Business Process**.

Select a BP to open the **Configuration** window.

Select the **Query** tab.

Under the **Query Conditions** block, select the query element name, and select **Modify**.

Define the values under the **Definition** and **Condition** blocks and deploy.

Creating a Record from the Query-Based Tab

When creating a record from its own BP log, the “SYS Numeric Query Based” Data Definition is updated when the user picks a reference process.

When creating a record from the Query Based tab of another BP (that auto-populates data to the record being created), the “SYS Numeric Query Based” Data Definition is not updated, unless the user:

- Manually changes the value.
- Uses a triggering element.

You cannot create a company-level business process record within a project, from a Query-Based tab.

Using Query-Based Tab Logs

From the Query-Based tab log, you can view, create, and copy BP records. The following toolbar options are displayed in the log.

Toolbar Options	Description
Create	Create records from the QBT. This button is seen only if you have permissions to create the record. Select the arrow to select a workflow if multiple workflows exist for the BP
 Refresh	Refresh and reload the page

Toolbar Options	Description
 Print	Prints the list view. You can choose from: Print , Export To CSV , Export To Excel . Note - For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols. - If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).
 Find on Page	Lets you find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
 Search	Lets you search for specific line items across all pages.

The *gear menu* () displays next to each record and contains all available actions that you can perform on the record. The following options are displayed in the *gear menu*: **Open**, **Copy**, **Copy With Attachments**, and **Copy Without Attachments**. The copy options are displayed only if you have permissions to create records in the current shell.

Query Based Data Element (QBDE) Evaluation

The Query Based Data Elements (QBDEs) are evaluated through one of the following ways:

- Based on the refresh conditions, when the record is opened (even from the draft).
- Based on the manual editing of the trigger elements, through user interface (this does not include the situation in which the record is initially created).

- Based on when the record is created. That is, the system evaluates QBDE values based on trigger element population, when a new record is created.

When you create a business process (BP) record (creation step of a BP record), the system evaluates the QBDEs:

- When the trigger element is edited manually on the form in the creation step.
- When the trigger element is auto-populated.

However, QBDE query conditions with null or empty values are ignored when dynamic values are selected in the following areas: Data pickers, Autocreation (BP Creator and BP Line item creator), Gates, Auto updates status setup, and Planning sheets.

Note

- Because the system evaluates QBDEs in a random order, Oracle recommends that you do not create a QBDE that uses a formula that references another QBDE.
- DEs that have been defined as a QBDE trigger element should not be evaluated as part of QBDE calculation.
- If a BP Data Picker (BP Picker) or any Data Picker is selected as a trigger element for QBDE and the picker value is automatically populated (auto populated) instead of manually entered, the QBDE element will not be evaluated.
- Query conditions ignore the Timestamp for Date-type data elements. Therefore, at run-time, when queried on a date picker, search results display records that satisfy only the date criteria. For example, *all* records updated on April 10, 2024 display, regardless of the time they were updated.
- When using QBDE, be aware that query elements are rounded off to use two decimal places, even if the Base Currency and various defined currency fields are different.

QBDE Evaluation in BP Records Created through CSV import or RESTful Services

The system evaluates the QBDEs when the trigger element is populated by way of a record that has been created through CSV, RESTful service (if the trigger element is entered in the input CSV request), BP templates, and Bypass I Step or S Step auto-creation.

QBDE Evaluation in BP Records Created through Auto-Creation

When a BP record is auto-created through Bypass I Step and S Step, the system evaluates the QBDE values in the auto-created records based on the trigger element population. When a trigger element is used for QBDEs, and the trigger element is auto-populated, the system evaluates the QBDE values in the creation step of the auto-created record.

In the case of Bypass I Step auto-creation, if the auto-created record resides in Initiation Step, the system does not evaluate the QBDEs.

The system evaluates formulas that use QBDE in the creation step of the BP form.

If the QBDEs are used in the workflow routing conditions, the QBDE values will be populated in the log and view form (if they are added after the successful creation of records). In this scenario, the system evaluates the QBDE values after evaluating the auto-populated DEs and formula DEs on the form.

You can use the QBDEs in BPs in the workflow routing condition, which lets you determine the route of the workflow based on the value of the data element.

The system evaluates the formulas in QBDEs, in the creation step of a BP record.

The system will not evaluate the QBDE values based on trigger element population in BP records that have been created by way of copy (with or without attachments). For example, when you create a Budget Item BP, you can view the QBDE Assigned Budget value, evaluated from the project cost sheet in the creation step.

In uDesigner, the trigger element "Contract No" is defined for QBDE in the "Assigned Budget" and is set to auto-populate from a constant value. (To access this information, go to the Company Workspace tab, and switch to **Admin** mode; in the left Navigator, select **uDesigner**, and then select **Business Processes**; open **Budget Items**; in the left Navigator, select **Upper Forms**, and then open the applicable Form.)

You can view the QBDE in the "Assigned Budget" value when a new record is created—in creation step as a trigger element "Contract No" is populated.

To do so:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **uDesigner**, and then select **Business Processes**.
3. Open the applicable BP.
4. In the left Navigator, select **Upper Forms**.
5. Open the applicable form.
6. From the toolbar, select **Properties**.
7. Double-click the field that should be set as the trigger element for QBDE.
8. Select **Auto-Populate Source**.
9. In the Auto Populate window, set the following:
 - Source Name: Set to **Constant Value**.
 - Source Value: Select the applicable value.
10. Select the above element that will serve as a trigger for the QBDE, and ensure that it is set to auto-populate from a constant value.

When you create a new Budget Item BP record, the system evaluates the QBDE in the "Assigned Budget" value at runtime and displays the total amount (from project cost sheet column) based on the trigger element auto-population.

The system evaluates the QBDE values in the creation step of a BP record if the trigger element is auto-populated by way of any source such as a single record BP, shell attributes, and so forth.

The system evaluates the QBDE values for the BP records that have been created through the schedule BP creation template, whenever the trigger element is populated.

In the creation step, the draft BP records can have their QBDE values re-evaluated only if the trigger element field is not null. The QBDE value will be populated in the BP log when the BP record is created or saved as draft.

Working with Form Documents, File Attachments, and Markups

You can attach files to be routed with a business process (BP) form. These attachments can include documents that must be reviewed and approved as part of a BP. The required documents are listed in the **Form Documents** group. These attachments can also include

supporting documents, which are listed in the **Published Documents** or **Unpublished Documents** group. You can also include attachments to the Comments section of the BP.

Unifier Viewer supports a wide range of document file types. The Native viewer lets you view most file formats in the application in which you created or regularly view them. If your Company Administrator enabled Office 365 integration, you can also use Microsoft 365 (the **Open in Office for the web** option) to view and update documents, including working on attachments for BPs. For more information regarding settings, see *Choosing a Viewer Option*. For more information on working with documents, see *Creating and Managing Documents*.

By default, files attached to BPs are placed in the **Unpublished Documents** group in the **Document Manager**. A **Publish Path** data element can be designed in BPs to specify the automatic publishing of documents to a specified path and override the default. For details about automatic publishing of documents, see *Publishing of Documents Automatically*.

Drawing files attached to Document-type BPs may be accompanied by multiple reference files, which may need to be resolved when attaching a drawing file.

Note

- Before sending a workflow BP to the next step or submitting a non-workflow BP, you can rename an attachment. If you change the name of an attachment, make sure that you do not change the file extension, which can render the file inaccessible in Unifier Viewer. For example, do not change an extension from .txt to .docx.
- You cannot upload and attach two documents with the same name to a BP record.
- For security, the Company Administrators can use the **Security** tab on the **Company Settings** node to specify the types and size of files that can be uploaded to the system by users and per company policy. Contact your Company Administrator for more information.

Antivirus scanning of files

If you are using an Oracle Cloud-based deployment, Unifier includes a virus scanner. To prevent virus attacks from infiltrating your system through external files, the system scans each file that is uploaded. Until the scan is completed, the file remains in a Scan Pending state.

At a minimum, the system scans each file that is uploaded, submitted, or attached through the following channels:

- Document Manager
- Business processes (BPs)
- Image pickers
- Cells within forms or sheets
- Custom Templates for use with custom prints and reports
- XML Localization Interchange File Format (XLIFF) files used for translation support
- Custom Help files, such as those provided through a uDesigner object
- Bluebeam sessions
- Web service GET calls
- Import of comma-separated values (CSV) or Microsoft Excel files

Depending on how your environment is configured, the following actions might occur:

- If the virus scanner detects an issue with a file that a user is uploading, the system sends an email to the user who uploaded the file and the designated company contact.
Depending on the location of the infected file, the system might display a bug icon  (if the system is configured to display alerts) or an ellipsis icon  (if the system is configured to prevent the display of alerts).
- If a user tries to access or download a file that has not yet been scanned and the environment is configured to display alerts, the system displays a confirmation message that requires a response to continue. If a confirmation message appears, the user can wait and try to access the file later.
For 2D files, the file is displayed if it passes the virus scan. Otherwise, a corresponding error message is displayed if the file fails the virus scan, or the virus scan is pending. However, although the virus scan is pending, you can view an unscanned file.
- If the virus scanner detects an issue with a file that a user is trying to view or download, an alert is displayed that indicates the file contains a threat. Only individual files can be rescanned. To rescan the individual file, select **Yes** in the alert message. In addition to the channels listed above, you can also rescan a file from the following channels: Emails, Notifications, and Attachments.
- If multiple files are selected for download, only the uninfected files are downloaded.

Note

If you are using an Oracle Cloud-based Unifier deployment, see Updating Company Settings on the Security Tab for more information about configuring the environment to allow the display of messages regarding Scan Pending states.

Adding Attachments

To add attachments to the main form of a business process record:

1. Open a business process record.
2. Select the **Attachments** tab from the right pane.
3. To select a file from your computer, select **Attachment**  and then select **Browse**.
 - a. Drag and drop files from your computer to the **Drag and Drop** box, or select anywhere in the **Drag and Drop** box and navigate to your file.
 - b. Select if you want to revise the file automatically if a file with the same name exists.
 - c. Select **Upload**. The date and time that the attachment upload is also displayed.
4. To select a file from Document Manager, select **Attachment**  and then select **Document Manager**.
 - a. Select a file. You can select **Find on Page**  to help you find a file. You can expand and collapse the document structure to navigate to your file.
 - b. Select the **Copy Comments** checkbox to copy the comments that are associated with the file you are attaching.
 - c. Click **Select**.

The Publish to Document Manager checkbox is disabled for documents that have been added from the Document Manager. For files attached from your local system, the Publish to Document Manager checkbox is automatically selected; if you clear it, the attachment is not published to the Document Manager.

If the **Attachments** tab of the business process form contains any attachments, an **Attachment**  indicator is displayed. If the tab contains no attachments, the right pane is refreshed and the indicator is no longer displayed.

Additional Information about Adding BP Record Attachments

Text-type BPs do not support record-level attachments; therefore, you cannot add attachments to upper form or action form.

Note

You cannot add record-level attachments to text-type BPs through integration, using CSV (Excel) import or SOAP or RESTful services.

Main Form: The main form, also referred to as the upper form, is the upper portion of a BP form. The main form contains the basic information that the form is managing, such as the name of a record and its description, who created the record and when, and so on. It also contains general data entry, informational, or reference fields for the BP form.

Action Form: The action form is the version of the BP form that opens when the recipient accepts the task implicit in the form. As a BP arrives at each step in a workflow, the system notifies the appropriate users, if they are involved in the step. When they open the notification, the system displays a view-only form of the step's task. If the user accepts the task, the form becomes an action form where the user can enter or edit information and attach additional documents. See also "View Form" in the *Unifier Data Reference Guide*.

You can include attachments in all other types of BP records, by using the Attachments tab. To include comments and comment attachments, go to the Comments tab.

You can add attachments to the text entry form, along with your comments. These attachments can be viewed, in the response list. Attachments to comments are available in the unpublished documents section.

You can also add attachments to line items. See [Adding Line Item Attachments](#).

Opening an Attachment

Before a task is accepted, you can review or download attachments. After it is accepted you can review, download, revise, rename, and remove attachments (depending on the properties of the form).

To open an attachment:

1. In the right pane, select the **Attachments** tab.
The tab displays a list of attachments. If there are revisions, the Revised column includes a check mark. If you review the attachment, the revisions are displayed in the list of attachments. The Reference Record tab is displayed only if there are references to drawing file attachments.
2. Select an attachment, and then do one of the following:

- If the attachment is a drawing file, select , and then select **Open in AutoVue**.
- If the attachment is a 3D file, select , and then select **Open**.
- For all other attachments, double-click the name of the attachment. The attachment opens either in the Native or Unifier Viewer, depending on your default setting. If Native is your default viewer, your Company Administrator enabled Office 365 integration, and the attachment is a CSV, DOCX, PPTX, or XLXS file, the attachment opens in Microsoft 365 (Office for the web).

Note

- You can select and open up to 100 3D files simultaneously in a single viewing window. To do this in Unifier Viewer, select the option to open files, and then select the 3D files you want to view from the list. Check the boxes next to the files you want to include and select **Update Viewer**. To remove a 3D file from the combined view, uncheck the box next to the filename, and select **Update Viewer** again. To retrieve the latest status from the database, select **Recheck Virus Scan Status**.
- Some 3D files may take longer to open if they are large or complex. When you upload a large 3D file, Unifier checks whether the file meets the criteria for background preprocessing, allowing you to view it more quickly. If a file appears as "Being Processed" in the file navigation pane, you can still move it by selecting the gear icon and then selecting **Open**.

For more information on adding annotations and markups, see [Add Markups to a Business Process Attachment](#).

Renaming an Attachment

Before sending a workflow BP or submitting a non-workflow BP, you can update the name of (rename) an attachment.

1. In the right pane, select the **Attachments** tab.
A list of attachments is displayed.
2. For the attachment in the **Unpublished Attachments** list that you want to rename, select the *gear menu* () , and select **Rename**.
3. In the **Rename Attachments** dialog box, update the name, and select **Save**.

Note

When you change the name of an attachment, make sure that you do not change the file extension, which can render the file inaccessible in Unifier Viewer. For example, do not change an extension from .txt to .docx.

4. When the **Notification** message appears, select **OK**.

Attach Files to Comments Section of a Business Process

The **Comments** tab lets you enter your comments and attach documents or files that can provide more information about a BP record.

Note

The Comments option cannot be used for updating any BP record.

To use the Comments option to enter your comment and attach files or documents:

1. Go to the shell tab, and switch to **User** mode.
2. Open the Business Process (BP) record.
A BP record could be in a folder such as Project Delivery, Cost Manager, Cost Controls, and so forth, in the left Navigator.
3. In the right pane of the BP record, select the **Comments** tab.
4. Select **Attach Files** , and select one of the following options:
 - Browse
 - Document Manager
5. When you are finished adding attachments, select **Post**.

Note

The attachment sources (**My Computer** and **Unifier Folder**) are available based on the BP design. These two options might not be available for a given BP.

The following topics explain the file attachment options in detail.

Attach Files to a Document-type BP from My Computer

This option lets you attach files from your computer or your local system onto a Document-type Business Process record.

After you select this option, the **Upload Files** window opens. You can add files to this list with the **Browse** button. This will open your system's file manager where you can select files to open.

You can either drag and drop files into the attachment list or use your system's file manager to add the files to the list. You cannot upload two files with the same name. After all files have been added, select **Upload** to add them to the attachment list in the Comments tab.

Note

The system does not attach folders. If you select a folder, the system attaches the contents of the selected folder, in a flat list.

By default, files attached to a business process are placed in the **Unpublished Documents** folder in the Document Manager grouping node.

A Publish Path data element can be designed in Business Processes to specify the automatic publishing of documents to a specified path and override the default. For details about automatic publishing of documents, see Publishing of Documents Automatically.

Attach Files to a Document-type BP from Unifier Folder

This option lets you attach files from the **Document Manager** (Documents folder).

When you select this option, the **Select Files** window opens, which displays all the folders of the Project/Shell documents.

Navigate through the listed folders to find documents to attach. You can highlight multiple files with Ctrl or Shift. After you have gathered all the applicable files, click **Select**.

Note

- Folders are not attached. Instead, the contents of a selected folder are attached in a flat list.
- The system does not allow attaching files with duplicate file names.

By default, files attached to a business process are placed in the **Unpublished Documents** folder in the Document Manager grouping node.

To access this folder:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Unpublished Documents**.

A Publish Path data element can be designed in Business Processes to specify the automatic publishing of documents to a specified path and override the default. For details about automatic publishing of documents, see Publishing of Documents Automatically.

Document-Type Business Process Forms (Without Folder Structure)

A Document-type BP *without* folder structure does not maintain the folder structure of the attached documents and folders, and the files (within the attached folders and sub-folders) are listed in a flat list.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and open a Document-type BP *without* folder structure.
3. Open a record.
By default, the record properties window (**General** tab) opens.

Note

Document BP without attribute form is not supported in the user interface.

The following explains each tab.

General tab

On the upper-right side of the record window, you can **Accept** or **Decline**, and use the **More Actions** menu to perform and access the following:

- **Add more assignees**
- **Auto-create**
- **CC more users**
- **Email as Attachment**
- **Print (HTML, PDF, Custom)**
- **AutoVue Review**
- **Terminate Record**
- **Transfer Ownership**
- **Help (record help and User Productivity Kit)**
- **Close**

On the left pane, you have the following options:

- **Record No.**
- **Status**
- **Title**
- **Revision no.**
- **Issue Date**
- **BP Creator**
- **Other fields**

On the right pane, you have the following tabs:

- **Comments**
- **Linked Records**
- **Linked Mail**
- **Workflow Progress**
- **Audit Log**
- **Reference Records**

The **Expand**  icon is also available to maximize the screen.

Line Items <line items> tab. The line items for Document-type BP are displayed according to the line item log designed in uDesigner.

On the upper-right side of the record window, you can **Accept** or **Decline**, and use the **More Actions** menu to perform and access the following:

- **Add more assignees**
- **Auto-create**
- **CC more users**
- **Email as Attachment**
- **Print (HTML, PDF, Custom)**
- **AutoVue Review**

- **Terminate Record**
- **Transfer Ownership**
- **Help (record help and User Productivity Kit)**
- **Close**

On the left pane, you have the following toolbar options:

- **View Comments by**
- **Download**
- **Refresh**
- **Print**
- **Search**
- **Find on Page**

The following columns are also displayed:

- **Name**
- **Record Comments** (callout icon)
- **Draft Comments** (pen icon)
- **Line Item Status**
- **Short Description**
- Other fields

On the right pane, you have the following tabs:

- **Line Item Details**
- **Attachments**
- **Linked Records**

For more information, see the *Unifier Managers User Guide*.

Adding Attachments to the Line Item

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs** and open a Document-type BP *without* folder structure.
3. Open a record. The record **General** tab opens, by default.
4. Select the **Line Items** <line items> tab.
5. On the right pane, select the **Attachments** tab.

Attachments tab

When you create a line item, the system allows you to use **Attach Files**  to attach a file to your record. After you save the line item, the **Attachments** tab appears for the record.

The **Attachments** tab provides additional details about an attachment in the following columns:

Note

You can preview the file in the **Attachments** tab. Select **Expand**  to maximize the window and see the file preview.

- **Publish** (select or deselect)
- **Name**
- **Bluebeam Session Status**
- **Comments**
- **Envelope Code**
- **Revised**
- **Title**
- **Pub. No.**
- **Rev. No.**
- **Issue Date**
- **Size**
- **Location**

In addition, if there is a revision to an attachment, the following columns are displayed in the **Revisions** block:

- **Publish** (select or deselect)
- **Name**
- **Comments**
- **Ref.**
- **Pub. No.**
- **Upload Date**
- **Size**
- **Upload By**
- **Rev. No.**
- **Issue Date**

Use the *gear menu* () next to the file to:

Note

After saving the line item, you must use the *gear menu*, next to the attachment (file), to remove the attachment. Use **Delete**  to remove your attachment prior to saving the line item.

- **Review**

- **Open in AutoVue** (You can also open an attachment by double-clicking the name of the attachment)
- **Download**
- **Revise**
- **Remove**

Importing Attachments (Without Folder Structure)

You can create line items in a Document Type BP without folder structure record and import attachments into the line items (go to a Document Type BP without folders record, select **Actions**, and select **Import Attachments**). For any Workflow, Non-Workflow, or Document Type BP without folder structure record, you must ensure that all the required fields have values.

Document-Type Business Process Forms (With Folder Structure)

A Document-type BPs *with* folder structure maintains the folder structure of the attached documents and folders, and the files (within the attached folders and sub-folders) are listed in a flat list.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs** and open a Document-type BP *with* folder structure.
3. Open a record. By default, the record properties window (**General** tab) opens.

Note

Document BP without attribute form is not supported in the user interface.

The following explains each tab.

General tab.

On the upper-right side of the record window, you can **Submit** or **Decline**, and use the **More Actions** menu to perform and access the following:

- **Email as Attachment**
- **Print (HTML, PDF, Custom)**
- **AutoVue Review**
- **Transfer Ownership**
- **View Record Location**
- **Help (record help and User Productivity Kit)**
- **Close**

On the left pane, you have the following options:

- **Record No.**
- **Status**
- **Publish Path**

- **Issue Date**
- Other fields

On the right pane, you have the following tabs:

- **Comments** (use **Attach Files**  to **Browse** uploaded files or go to **Document Manager** to select files)
- **Linked Records**
- **Linked Mail**
- **Reference Records**

The **Expand** icon  is also available to maximize the screen.

Line Items <line items> tab. The line items for Document-type BP are displayed according to the line item log designed in uDesigner.

On the upper-right side of the record window, you can **Submit** or **Decline**, and use the **More Actions** menu to perform and access the following:

- **Email as Attachment**
- **Print (HTML, PDF, Custom)**
- **AutoVue Review**
- **Transfer Ownership**
- **View Record Location**
- **Help (record help and User Productivity Kit)**
- **Close**

On the left pane, you have the following options:

- **View Comments by**
- **Refresh**
- **Print**
- **Search**
- **Find on Page**
- **Expand All Groups**

The following columns are also displayed:

- **Name**
- **Record Comments** (callout icon)
- **Line Item Status**
- **Issue Date**
- Other fields

On the right pane, you have the following tabs:

- **Folder Details**

For more information, see the *Unifier Managers User Guide*.

Adding Attachments to the Line Item

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs** and open a Document-type BP *without* folder structure.
3. Open a record. The record **General** tab opens, by default.
4. Select the **Line Items** <line items> tab.
5. On the right pane, select the **Attachments** tab.

Attachments tab

When you create a line item, the system allows you to use **Attach Files**  to attach a file to your record. After you save the line item, the **Attachments** tab appears for the record.

The **Attachments** tab provides additional details about an attachment in the following columns:

Note

You can preview the file in the **Attachments** tab. Select **Expand**  to maximize the window and see the file preview.

- **Publish** (select or deselect)
- **Name**
- **Bluebeam Session Status**
- **Comments**
- **Envelope Code**
- **Revised**
- **Title**
- **Pub. No.**
- **Rev. No.**
- **Issue Date**
- **Size**
- **Location**

In addition, if there is a revision to an attachment, the following columns are displayed in the **Revisions** block:

- **Publish** (select or deselect)
- **Name**
- **Comments**
- **Ref.**
- **Pub. No.**
- **Upload Date**
- **Size**
- **Upload By**
- **Rev. No.**

- **Issue Date**

Use the *gear menu* () next to the file to:

Note

After saving the line item, you must use the *gear menu*, next to the attachment (file), to remove the attachment. Use **Delete**  to remove your attachment prior to saving the line item.

- **Review**
- **Open in AutoVue** (You can also open an attachment by double-clicking the name of the attachment)
- **Download**
- **Revise**
- **Remove**

Importing Attachments (With Folder Structure)

You can create line items in a Document Type BP with folder structure record and import attachments into the line items (go to a Document Type BP with folders record, open the folder, open the record, select **Actions**, and select **Import Attachments**).

If the **Enforce validations on Detail form** option has been enabled in uDesigner, the **Validate Attachments** dialog will display after you upload.

To upload attachments for import:

1. Drag and drop files from your computer to the **Drag and Drop** box, or select anywhere in the **Drag and Drop** box and navigate to your file.
2. Select one or more files using the Shift or the CTRL keys.
3. Select **Upload**.
Each file is displayed as a line item.
4. In the **Validate Attachments** dialog, perform any of the following actions for each line item:
 - Select **Error Check** to review all errors flagged for the uploaded attachments.
 - Select **Save** if no errors display or all errors have been resolved.
 - Select **Cancel** to discontinue the import.

For any Workflow, or Non-Workflow, Document Type BP with folder structure record you must ensure that all the required fields have values.

Copying Folder (Standard View)

If you have permission to create folders in a Document-Type Business Process For (With Folder Structure), you can see an additional option in the *gear menu* (): **Copy**. The *gear menu* options will be:

- **Add Sub Folder**

- **Move**
- **Copy**
- **Delete**

Note

The above *gear menu* options apply to the customer-created folders only and not to the system-defined root folder, "Attachments."

Using the "Copy" option lets you copy a folder into the same path where it currently exists. In this case, the name of the newly created folder will be: "Copy of <original folder name>."

Note

- The bracket ">" symbol between the source folder and the destination folder has the hover over text: "Copy to."
- The option "Copy" remains disabled until you select a destination folder.
- When the copy action is complete for a folder, the original source folder continues to show as the selected folder in the grid.

Attach Files to Document-Type Business Process Forms

Document-type business processes, such as Transmittals or Submittals, can be used for routing documents such as specifications or drawings for review.

Note

Comments and graphic markups can be added to individual files, and the document list is easily accessible from the BP form.

Document-type BPs can be designed such that files can be added to individual line items. This feature lets you assign line-item status to individual documents. If the status of the line item (and therefore, the associated document) reaches a specified status, for example, Approved, the BP can be set up so that the line item is no longer editable. At this point, attachments and comments to that line item are no longer allowed.

There are two subtypes of Document-type BPs:

- **Document-type BPs with folder structure**

A Document-type BPs *with* folder structure maintains the folder structure of the attached documents and folders, and the folder structure is displayed in the lower-left pane of the form.

For Document-type BPs *with* folder structure, the designer can specify that a configured folder path be appended to the folder structure. This appended path is based on the path configured in the **uuu_dm_publish_path** data element on the business process form, and the selection of the **Append Line Items Folder Structure to AutoPublish Path** option, which is documented in the *Unifier uDesigner User Guide*.

- **Document-type BPs without folder structure**

A Document-type BPs *without* folder structure does not maintain the folder structure of the attached documents and folders, and the files (within the attached folders and sub-folders) are listed in a flat list.

To attach files to a Document-type BP:

1. Go to the shell tab, and switch to **User** mode.
2. Open the BP record.

Note

A Business Process (BP) record could be in a folder such as Project Delivery, Cost Manager, Cost Controls, and so forth, in the right Navigator.

3. Go to the **Line Item** tab [tab name], and select and open a line item.
4. Select the **Attachments** tab in the right pane, select **Attach Files**, and select one of the following options:
 - **Browse** (local system)
 - **Document Manager** (Document Management)

Note

The attachment sources are available based on the BP design and both of these two options may not be available for a given BP.

The following explains each option in detail.

Attaching files to a Document-type business process with Browse

This option lets you attach files, from your computer or your local system.

After the **Upload Files** window opens, select **Browse** to open your system files.

Select the document that you want to attach.

Note

You cannot select a folder.

After you select the file, select **Open**. All selected files will be added to the **Upload Files** window. When you have selected all files that you want to upload, select **Upload** in the lower-right corner.

After you attach your files, you can see the files listed in the **Attachments** tab, within the **Line Item** tab. The **Line Item** tab <tab name> (the very last tab) has two panes. The pane on the left displays the line items. The pane on the right displays the line item details, all attached files, and any linked records.

When you upload a file from My Computer as an attachment, to be able to enter file-related values for that attachment, the Detail Form design of Document Type with Folder Structure BP (Advanced Document Type BP), must have the following fields:

- **uuu_title**
- **uuu_revision_no**
- **uuu_issue_date**

Note

When attaching files from the Document Manager, some fields on the line item may auto-populate with data from the document or folder Properties window. Document-type BPs can be designed to auto-populate certain data elements on the detail form with data from matching data elements on the Document Attribute Form.

By default, files attached to a business process are placed in the **Unpublished Documents** folder in the **Document Manager** grouping node.

To access this folder:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Document Manager**, and then select **Unpublished Documents**.

A **Publish Path** data element can be designed in business processes to specify the automatic publishing of documents to a specified path and override the default. For details about automatic publishing of documents, see Publishing of Documents Automatically.

Attaching files to a Document-type business process with Document Manager

This option lets you attach files from the **Document Manager** (Documents folder).

When you select this option, the **Select Files** window opens, which displays all the folders of the Project/Shell documents.

Navigate through the listed folders to find documents to attach. You can highlight multiple files with Ctrl or Shift. After you have gathered all the applicable files, click **Select**.

Note

- Folders are not attached. Instead, the contents of a selected folder are attached in a flat list.
- The system does not allow attaching files with duplicate file names.

By default, files attached to a business process are placed in the **Unpublished Documents** folder in the **Document Manager** grouping node (go to the shell tab, and switch to **User** mode; in the left Navigator, select **Document Manager** and then select **Unpublished Documents**).

A **Publish Path** data element can be designed in business processes to specify the automatic publishing of documents to a specified path and override the default. For details about automatic publishing of documents, see Publishing of Documents Automatically.

Add Markups to a Business Process Attachment

You can add markups, such as circles or other graphical elements as well as text, to a document, which display directly on the document, but do not alter the document itself.

Markups are layered on top of a file, as if the markups had been done on an acetate sheet that had been placed on top of the file. Each user who adds a markup is adding a new layer to the file.

For more information about replacing and reviewing attachments, see [Reviewing Attachments in a Business Process](#) and [Revising Attachments in a Business Process](#).

To add a markup to an attachment on a business process:

1. To open the BP record that contains the attachment, accept the task or select **Edit** (for a non-workflow BP record).
2. On the **Attachments** tab in the right pane, select the applicable attachment.
3. To open the attachment, select the *gear menu* () and select **Review**.
4. To review existing markups, select the previous comments below the **Comments** box on the right.
5. Enter your comments and post your comments on the document.
 - a. To activate an additional set of tools, such as **Pan**, **Select**, **View**, **Annotate**, and so on, select anywhere in the **Comments** box.
For example, to annotate a document, from the toolbar, select **Annotate**, and then select one of the tool buttons located below it, such as Highlight. After you select a tool, additional options appear in the container section to the right of the toolbar. If you selected Highlight, you might also want to select a specific color to use.
 - b. Use the applicable tools to mark up the attachment.
 - c. If applicable, enter your comments in the **Comments** box.
 - d. To add attachments to your comments, select **Attachment**, and upload the applicable attachment.
 - e. When you are done, select **Post**.

 Note

You can add comments in one document and then move on to the next document.

6. Close the window when finished.

If you would like to change markups, right-click the comment and select **Edit**. Markups can be removed or reinstated with **Undo** and **Redo**. New annotations can be added as well. When you have finished editing, select **Post**.

Viewing and Adding New Markups in AutoVue

In addition to adding markups to a BP attachment, you can add and view old markups simultaneously. With this functionality, multiple members can add various markups across shared files throughout the life cycle of a design document.

When you select **AutoVue Review** in the **Gear** menu of the **Attachments** tab, a **View All Markups** option is available in the **File Viewer** of the **Comments** section. If you select **View All Markups**, the document is displayed in View-Only mode.

You can also choose the markups that are displayed by selecting the checkbox next to each markup. After selecting **OK**, all the chosen markups are displayed.

View Attachments in a Business Process

To view attachments:

1. Open the BP record that contains the attachment.
2. On the **Attachments** tab in the right pane, select the applicable attachment.
3. To view the **Revisions** and the **References** tabs, maximize the right pane. The **References** tab is displayed only if there are references to drawing file attachments. When you maximize the **Attachments** tab, the system selects the first file in the grid, by default, and a preview of the file is displayed on the right side of the window.

The **Previous** and **Next** page buttons let you navigate between multiple pages.

The **Revisions** tab, located under the **Attachments** tab grid, lets you access the previous version of the file that you have selected, if available.

The preview screen displays the following file types:

- Image
- PDF

The audio and video files cannot be previewed. You cannot preview DLL and SWF files, but you can open them in AutoVue or download the attachment.

Download Attachments in a Business Process

Note

If you are using an Oracle Cloud-based deployment, the system displays a message when you choose to view or download files or attachments that have not been scanned for viruses. To continue, you must select **Yes** or **No**. If you select **Yes** and the system determines that the file is infected, the download is stopped; otherwise, the download completes successfully.

To download an attachment:

1. Select or open a business process record.
2. On the **Attachments** tab in the right pane, select the applicable attachment.
3. From the *gear menu* () , select **Download**.

To download all attachments on a business process record:

1. Highlight the business process record from the log.
2. Select the **Attachments** tab from the right pane.
3. On the top toolbar, select **Download All**.

All attached files will be downloaded in a zip file, containing all the downloaded attachments.

Record level attachments are placed in the root folder while attachments belonging to line item tabs will be bundled under respective sub-folders in the zip file, with the name of the folder being the name of the line item tab.

If multiple files have the same name, a numerical suffix may be added to the file name. If more than 100 files have the same name, the suffix for the 101st file will have a time stamp as the suffix instead.

Reviewing Attachments in a Business Process

If a business process (BP) record contains multiple attachments—whether they are linked to the main BP record or to its line items—you can view all associated files in a single location.

When you select a document and open the *gear menu* () , you can perform the following actions:

- **Review**
- **Open in AutoVue**
- **Open in Office for the web**
- **Download**
- **Revise**
- **Remove**

If you select **Review**, the **File Viewer** window opens. This window includes the following sections:

- **Attachment grid:** After you add or remove an attachment from the upper form and select **Upload**, the Attachment grid displays the updated total number of attachments. You do not need to save, send, or submit the form to see this count.
- **File viewer:** Use the icons at the top of the File viewer to perform the following operations:

- **Maximize:** To expand the viewer.
- **Download:** To download a raw file.
- **Zoom**
- **Rotate:** To rotate the attached graphic.
Rotation happens clockwise, by 90 degrees.

Context-sensitive **Cancel** and **Save** options are made available when the system detects rotation. The **Save** option lets you save the rotational changes, and the **Cancel** option lets you reset the image back to its original state.

Rotation will not be permitted after the first annotation is complete.

- **Comments:** To open the Comments pane. The Comments pane lets you insert your comments and annotate the file.
 1. To activate an additional set of tools, such as **Pan**, **Select**, **View**, **Annotate**, and so on, select anywhere in the **Comments** box.
 2. Use the applicable tools to mark up the attachment.
 3. If applicable, enter your comments in the **Comments** box.
 4. To add attachments to your comments, select **Attachment**, and upload the applicable attachment.
 5. When you are done, select **Post**.

You can also review the comments posted by others.

To review an attachment:

1. Open the BP record that has attachments.
2. Select the *gear menu* () , and choose one of the following:
 - To open attachments in the default Unifier Viewer, select **Review**. The Review option is available for an Action Form as well as a View Form.
 - To open attachments in AutoVue, select **AutoVue Review**. This option is displayed only if your Unifier server is configured to use AutoVue.
 - If your Company Administrator enabled Office 365 integration and the attachment is a CSV, DOCX, PPTX, or XLXS file, select **Open in Office for the web**.

The attachments and comments are displayed in the BP Attachment Viewer.

3. Review the comments posted by others.
4. Enter your comments, and post your comments on the document.
Using the Unifier Viewer:
 - a. To activate an additional set of tools, such as **Pan**, **Select**, **View**, **Annotate**, and so on, select anywhere in the **Comments** box.
 - b. Use the applicable tools to mark up the attachment.
 - c. If applicable, enter your comments in the **Comments** box.
 - d. To add attachments to your comments, select **Attach Files**  , and upload the applicable attachment.
 - e. When you are done, select **Post**.

Using AutoVue:

- a. Select the **Markup** icon in the **Comments and Revision** window.
 - b. Use the markup toolbar displayed in the **Document** window to mark up your document.
 - c. Enter your comments in the **Comments and Revisions** window, and select **Post**.
 - d. Select **Attach Files**  to attach files to the comment.
5. Undo changes with the toolbar option or Ctrl+z.
 6. Redo changes with the toolbar option or Ctrl+y.

Note

- You can add comments to one document and then proceed to the next document.
- All comments are visible in both viewers, regardless of where they were added. However, markups are only displayed in the viewer in which they were created.
- You can consolidate attachments and multiple comments, along with their associated markups, when viewing files in AutoVue.
- Only comments that are in draft status can be edited. Existing comments cannot be modified.

7. Close the window when finished.

Additional information about the Review window

When a BP record is in Terminal Status or Terminated Status, the Review window opens in Read-Only mode.

Attachments from hidden tabs on a BP record are not shown in the Review window.

Attachments on query-based tabs (QBTs) are also not displayed in the Review window.

For Cost BP Records of the Summary Payment Application (SPA) Schedule of Values (SOV) type, line items are not shown on the Review window. You can add comments in the General Comments field instead.

The Review window displays all revisions for each revised document.

Attachments are grouped by BP Record-level and Line Item-level, following the tab order: BP Record attachments appear first, followed by Line Item attachments.

Selecting a file in the Review window displays its content in the AutoVue section. Selecting the comment icon opens the comments window.

Revising Attachments in a Business Process

You can revise (edit) documents that are attached to any BP record or Line Item. If your Company Administrator enabled Office 365 integration, you can use Microsoft 365 (Office for the web) to revise attachments for BPs.

Note

- Revising a document replaces the existing file (with the same name) in a BP record or Line Item.
- If the terminal status of a BP record has been reached, the system disables the document revision option.
- If you are using the co-authoring feature of Microsoft 365 and you want to update a document, make sure that the document supports co-authoring and that the co-authors have permission to access and edit the applicable document. For more information, see your Microsoft documentation.

To revise an attachment by uploading it from your local machine:

1. Open a business process record.
2. In the right pane, select the **Attachments** tab.
3. Select an attachment, select , and then select **Revise**.
4. Select the file you want to revise, select , and then select **Browse**.
5. Select the revised file to upload, and select **Open**.
6. Select **Upload**.

To see a list of revised documents, maximize the Attachments tab on the right pane.

If the name of a file that you attach to a BP record, or Line Item, matches the name of a file that exists in the BP record, or Line Item, the system lets you automatically revise the

existing file (**Revise automatically if file with same name exists**) with the newly attached file.

To revise an attachment using Microsoft 365:

1. Open a business process record.
2. In the right pane, select the **Attachments** tab.
3. Select an attachment, select , and then select **Open in Office for the web**.
Whenever you update a Microsoft 365-supported document, a new revision is created. If another user joins the co-authoring session while your session is active, changes from both users are saved in the same revision of the document.
4. Make the applicable changes, and verify that the status listed in the upper-left corner is **Saved**.
5. Verify that the changes made by all participating co-authors are reflected in the same revision of the document.
6. To see a list of revised documents, maximize the **Attachments** tab on the right pane.

View Graphic Markups in a Business Process Attachment

To view graphic markups:

1. From the BP Attachment Viewer, locate the comments pane. Markups are associated with a specific comment.
2. Select a comment to view markups associated with the comment. Comments that have markups display the **Annotation** icon  in the comment listing.

Note

All comments are displayed in both viewers regardless of which viewer the comments were added in. Markups are visible only in the viewer they were made in.

Publish Attachments or Revised Attachments in a Business Process

By default, documents attached to BP record, or Line Item are published in the **Unpublished Documents** folder. For Document-type BP record, or Line Item, with Folder Structure, the Company Administrator can specify that a configured folder path be appended to the folder structure. Refer to the *Unifier Data Reference Guide* for details.

The system publishes to the Document Manager:

- Documents attached to the BP record.
- Documents attached to the Line Item of the BP record.

Note

Comments related to a document attached to the BP record and its Line Item are not carried over to the Document Manager when published.

You can auto-publish attachments if a BP has been set up to **Override DM Permissions** by your administrator and you include the **uuu_dm_publish_path** Data Element in the BP record or Line Item. Alternatively, if the folder path in the BP is invalid, navigate to the **Unpublished Documents** node, select your file, and select **Publish**.

Remove Attachments from a Business Process

To delete an attachment:

1. Open a BP record.
2. Select the **Attachments** tab from the right pane.
3. Select an attachment, select , and then select **Remove**.

Comparing File Attachments

The system lets you compare different revisions of a file that is attached to a:

- Business Process (BP) record.
- BP Line Item.
- Document in Document Manager.

To compare different revisions of a file or document that is attached to BP record and BP Line Item:

1. Open the BP that has attachments.
2. Select **Review** to open the **BP Attachment Viewer** window.
3. Select an attachment.
4. Select **Analysis**, and select **Compare**.
5. Select the revision that you want to compare the current version with.
6. Follow the prompts, and select **Finish** when done.

To compare different revisions of a file or document in **Document Manager**:

1. Go to **Document Manager** and open the folder.
2. Select a file that has revisions, and select **Open** to open the **View File** window.
3. Select **Analysis**, and select **Compare**.
4. Select the revision that you want to compare the current version with.
5. Follow the prompts, and select **Finish** when done.

The system also lets you compare any Unifier file with a file on your local system.

1. Open the BP that has attachments.
2. Select **Review** to open the **BP Attachment Viewer** window.
3. Select an attachment.
4. Select **Analysis**, and select **Compare**.
5. Deselect the checkbox for revisions.
6. Select **Browse** to select the file from your local system.
7. Follow the prompts, and select **Finish** when done.

To compare a file or document in **Document Manager** with a file on your local system:

1. Go to **Document Manager** and open the folder.
2. Select a file that has revisions, and select **Open** to open the **View File** window.
3. Select **Analysis**, and select **Compare**.
4. Deselect the checkbox for selecting revisions.
5. Select **Browse** to select the file from your local system.
6. Follow the prompts, and select **Finish** when done.

Republishing DM Document from BP Record

If the **Republish if Publish Path is different from current location** option is enabled for a BP, you can use the UI to **Move** or **Copy** an attachment that was added through the Document Manager (DM)..

Note

- This option is not available for the Text-type BPs (because these types of BPs do not support attachments) and RFB BPs bidder upper action form.
- You must use the UI; you cannot use a RESTful web service to complete a republish activity.

You can change the Publish option (in the **Publish to Document Manager** section) in the BP record in any attachment that you add from the Document Manager (DM).

When you select the Publish option, you can **Move**, or **Copy**, the attachment to a location (publish path as captured in the `uuu_dm_publish_path`). You can check **Automatically select all existing Record and Line Item Attachments for Republish**. The user can also Select all or deselect all attachments by checking or unchecking the checkbox in the column heading of the attachments grid.

If the `uuu_dm_publish_path` is the same as the current location of the file in DM, the file in DM stays as is, and there will be no revision or republish.

If the `uuu_dm_publish_path` is different from the current location of file in DM, then:

- If the **Move** option has been selected (in uDesigner), the file (with all its revisions) can be moved from the original DM location to the new `uuu_dm_publish_path`. This type of move is the same as a manual move of a file from one location to another location in DM, and it is captured in the Audit Log. Furthermore, the BP record assignee (the user who initiated the move action) is also captured in the Audit Log.
- If the BP step assignee does not have Add Folder or Add Documents permission, then if the BP step assignee:

– Selects Send or Finish Editing, the system displays the following alert:

The following attachment(s) cannot be moved to <label of DE `uuu_dm_publish_path`> as you do not have permissions:

<File 1 Name>

<File 2 Name>

...

Do you want to proceed?

If the answer is **Yes**, the record is sent to the next step or finish edit without moving the file.

If the answer is **No**, the record is not moved to next step or finish edit, and the record stays at the current step giving the BP step assignee a chance to change the publish path or take other action.

Note

If the source file is locked or checked out, the source file remains in the same state, at the destination after the move.

- If the **Copy** option has been selected (in uDesigner), the latest revision of the file (from the original DM location) is copied into the `uuu_dm_publish_path`. The new copied file, at a new DM location, is linked to the BP record. The original file (with all its revisions) remains in the original DM location, as is, and it is not linked to the BP record.
- If the BP step assignee does not have Add Folder or Add Documents permission, then if the BP step assignee:

- Selects **Send** or **Finish Editing**, the system displays the following alert:

The following attachment(s) cannot be copied to <label of DE `uuu_dm_publish_path`> as you do not have permissions:

<File 1 Name>

<File 2 Name>

...

Do you want to copy these attachment(s) to Unpublished Documents?

If the answer is **Cancel**, the record stays at the current step.

If the answer is **Skip**, the file (or files) will not be copied and stay as is. The original file shows as an attachment and linked to the BP record. The record can be moved to the next step or finish edit.

If the answer is **Copy**, the file (or files) will be copied to the Unpublished Documents for the project/shell. This new file in the Unpublished Documents is linked to the BP record. The original file stays as is, and it is not linked to the BP record. The record can be moved to the next step or finish edit.

For both the **Move** and **Copy** option, if the destination location already has a file with the same name as the file that is being moved or copied, the existing file will be revised with the new file from the BP. And if:

- The same name file in the destination is already checked out, the system revises the checked-out file with new file from BP and leaves this new file as checked out in the new location.
- The same name file in destination is locked, the system revises the locked file and the newly revised file will be locked (same as if a user revises a locked DM file attached to a BP record).
- The source file is in a checked out, or locked state, and at the destination the same name file is also checked out or locked, the destination file state remains (the final file at destination location shows as locked or checked out based on its previous state in same location). In these scenarios (when destination location has a file with same name), the permission to revise the destination file has to be selected.

If the user has the permission:

- In the case of **Move**, the source file revises the destination file with all its revisions. As a result, if source file has two revisions, and the destination file has three revisions, the final file in the destination location after the move will have five revisions (two revisions from source file added on top of the three revisions in destination file).
- In the case of **Copy**, only the latest revision of the source file revises the destination file.

If the user does not have the permission:

- In the case of move, if **Send** or **Submit** is selected, the system displays the following alert: The following attachment(s) cannot be moved to <label of DE uuu_dm_publish_path> as you do not have permissions:

<File 1 Name>

<File 2 Name>

...

Do you want to proceed?

- In the case of **Copy**, if **Send** or **Submit** is selected, the system displays the following alert: The following attachment(s) cannot be copied to <label of DE uuu_dm_publish_path> as you do not have permissions:

<File 1 Name>

<File 2 Name>

...

Do you want to copy these attachment(s) to Unpublished Documents?

If the uuu_dm_publish_path is blank, then:

- If the republish option as **Move** is selected, the file stays at the original location, and the file will not be moved to Unpublished documents.
- If the republish option as **Copy** is selected, the latest revision of that file is copied into the Unpublished Documents.

Note

The above scenarios apply to both Upper Forms and Detail form attachments of a BP record.

When a BP record moves from one step to the next (in uDesigner the Publish Path is different from current location option is selected):

- If the next step form has the option **Publish Path is different from current location** checked, the same process occurs (as stated above). If you select **Publish** for an already published attachment again, that attachment will be published to the uuu_dm_publish_path again.

Note

This is the same as when the destination already has a file with the same name as the one being published is triggered (as stated above).

- If the next step form does not have the option **Publish Path is different from current location** checked, the same process occurs as for attachments from DM on a BP record.

Note

If you add any attachment to the BP record from the DM, the attachment moves into the Published Attachments group, on the log. If you add an attachment from a local area, the attachment moves into the Unpublished Attachments group. As the unpublished attachments get published to the DM (upon selecting Submit or routing the record to next step), those attachments move into the Published group.

About Linking Business Process Records to other Business Process Records

You can create a link from one business process to another, or from a line item to a business process. Other users will be able to select the link and view the referenced business process. Linked records are added and viewed from the Linked Records link at the bottom of the BP form. If records have been linked, the number of records will appear next to the Linked Records link.

Note

This option is available only in BPs that have been designed to accommodate linked records. A user's ability to view a linked BP record is based on the user's permissions. If users cannot see the record in the log, they cannot see it in the link.

Linking BP Records to other BP Records

To link a business process record to another business process:

1. Open an existing BP record or create a record.
2. In the right pane of the BP form, select the **Linked Records** tab.
3. Select **Add** (). The **Add Records** window will open.
4. In the **Select Business Process** drop-down menu, select the type of business process of the record you want to link. You can use the **View** drop-down menu or **Find on Page** options to filter the list of available records.
5. From the resulting list of BP records, select the record(s) to link to the open business process form, and select the single arrow pointing to the right to add it to the **Selected Records** area. You can select the single arrow pointing to the left to remove records from the **Selected Records** area, or press the double arrows in either direction to add or remove all records in the log.
6. Select **Done** when finished.

To link a line item to a business process record:

1. Open an existing BP record or create a record.
2. In the left pane of the BP form, select the **Line Items** tab.

3. Select a line item from the log to link to a BP record.
4. In the right pane of the BP form, select the **Linked Records** tab.
5. Select **Add**. The **Add Records** window will open.
6. In the **Select Business Process** drop-down menu, select the type of business process of the record you want to link.
7. From the resulting list of BP records, select the record(s) to link to the open business process form, and select the single arrow pointing to the right to add it to the **Selected Records** area. You can select the single arrow pointing to the left to remove records from the **Selected Records** area, or press the double arrows in either direction to add or remove all records in the log.
8. Select **Done** when finished.

To link a line item from a business process record to another business process record by way of consolidation, select **Actions**, select **Consolidate Line Items**, and create a line item.

Note

- The "Prevent consolidating the same line item across multiple records" option must be enabled to prevent the user from consolidating line items that have already been consolidated. If this option is enabled, the line items cannot be edited, later. The system ensures that the line items can be consolidated only once, across all the business.
- You must be a member of the shell in which the applicable BP records reside.

When you link a business process record, using any of the methods explained above, the Linked Records tab shows the Current View for all records and provide the following details:

- Direction
- Type
The contents of the Type column indicates whether the linked record has been associated automatically (by way of Line Item Consolidation), or manually (by way of manual linking).
- Business Process
- Record Number
- Record Title
- Record Location
 - If the BP is a company-level BP, the Record Location shows the Company Workspace tab name.
 - If the BP is a Project-level BP, the Record Location shows the Project name.
 - If the BP is a Shell-level BP, the Record Location shows the Shell location.

Note

- You cannot remove the link Type: Line Item Consolidation.
- If there are multiple line items consolidated from the same BP record, the BP record will be seen as a linked record for that many line items.
- If the line item with the link Type: Line Item Consolidation moves to the status, "Previously consolidated lines are available when terminal status equals" in uDesigner, or is terminated, the link will be automatically removed.

Manage Linked Records

To view a linked record:

1. Open a BP record, and select the **Linked Records** tab in the right pane. If you are opening a linked record associated with a line item, select a line item tab and select the line item.
2. From the Links Log, hover over the record link, select the *gear menu* () , and select **Open**.

To remove a linked record:

1. Open a BP record, and select the **Linked Records** tab in the right pane.
2. From the Links window, hover over the record link, select the *gear menu* () , and select **Delete**.

Note

From this window, you cannot delete a record with a From direction. To delete the record, you must open that record, select the **Linked Records** tab, and remove it from the Links window.

Working with Linked Mail

The **Linked Mail** tab lets you link existing emails (Mailbox items) or compose new emails to a BP record. On any action form, you can view the referenced mail. Select **Add** to view the following options:

- **Mailbox:** To link mail from your Mailbox
- **Project Mailbox:** To link mail from the Project Mailbox
- **New Mail:** To compose emails and add attachments from your computer or Document Manager. After the mail is submitted, it gets linked to the record and displayed in the **Linked Mail** tab.

When the **Linked Mail** tab is maximized, the left section displays the grid, and the right displays the functions, content, and attachments of the selected mail. If you are a participant in the email, you can see the action buttons: **Reply**, **Reply all**, and **Forward**, as well as the **More** drop-down menu, which has options to **Flag**, **Clear Flag**, **Print**, and **Delete**. If you are not a participant in the mail, you can see the option to **Print**.

Opening or Deleting mail

From the grid, select the *gear menu* () , and select **Open** or **Delete**. Alternatively, you can double-click the mail, in the grid. When you select multiple mailbox items, the only option available is **Delete**.

Viewing content of the linked record

To view the full content of the linked record, double-click an entry in the grid.

Composing Linked Mail

You can create and send a Mailbox message from the BP record. You must send the message before sending the BP to automatically link it to the BP record. The Mailbox message will be stored in the Project Inbox, the **Sent Items** node in the Home tab, and the Inbox of recipients. In addition, if you or the recipient reply to the message, the reply will also automatically be linked to the BP record.

Note

If you create a Mailbox message and save it without sending, it will remain in your Mailbox Draft log in the current project/shell.

To compose a message to link to a BP record:

1. Select a BP record.
2. From the right pane, select the **Linked Mail** tab.
3. Select **Add**  , and select **New Mail**.
4. Compose your message, and select **Send**. The following additional options are displayed: **Save**, **Delete**, **Attach**, **Flag**, **Clear Flag**, **Print**, **CC**, and **Bcc**.

After the mail is sent or saved, it will appear in the Linked Mail grid.

Adding from Project Mailbox

In addition to composing linked mail, you can link mail that exists within a mailbox to a business process. The Project Mailbox option will be seen only if user has permissions to the Project Mailbox.

To link message from the Project Mailbox to a BP record:

1. Select a BP record.
2. From the right pane, select the **Linked Mail** tab.
3. Select **Add**  , and select **Mailbox** or **Project Mailbox**. The Add from Mailbox window is displayed.
4. Use arrows to select the messages you want to link from the Available Items column to the Selected Items column.
5. Select **Done**.

Manage Linked Mail

You can view or remove linked Mailbox messages.

To view linked Mailbox messages:

From the Linked Mail window, select the *gear menu* () , and then select **Open**. The Message window opens.

To remove a linked Mailbox message:

From the Linked Mail window, select the *gear menu* () , and then select **Delete**.

Reply To or Forward a Linked Mailbox Message

If you receive a Mailbox message with the caption, **This mail and any future replies are linked to business process records**, beneath the subject line, that Mailbox message is linked to one or more BP records. If you select **Reply**, **Reply All**, or **Forward** and then send your response, the reply will also automatically be linked to the BP record.

View the List of Linked BPs from a Mailbox Message

To view linked BP records from a Mailbox message:

1. Open the business process record.
2. Select the **Linked Mail** tab. The Linked Mail window opens, showing the emails that are attached to the record.
3. Select the email you want to view, select the *gear menu* () , and select **Open**. The system opens the email.
4. Below the Subject line is an information icon with the following caption:
This Mailbox and any future replies are linked to business process records.
5. Select the **business process records** link. The system opens the Linked Business Process Records window, which shows a list of all business process records to which this email is attached.
You can select a business process record from the list to view its record details in the right pane.

Send and Manage Linked Mailbox from RFB Forms

The [Request for Bid \(RFB\) Business Processes](#) have special linked Mailbox functionality within the **Proposal Management** tab. For RFB business processes, the creator of the RFB form is allowed to correspond with internal users or with RFB bidders. Unopened emails are displayed in boldface type to indicate that they have not been viewed.

When you *send* an email to a bidder, the system includes information in the subject line that helps the recipient identify that the message is for an RFB and it lists the RFB Record Number. The body of the message includes additional information, such as the Record Number and Title, and indicates the type of change made to the RFB.

When you *receive* an email from a bidder, the system includes information in the subject line that helps you identify that the message is for an RFB, it lists the RFB Record Number, and it

indicates that the recipient received the original RFB request. The body of the message includes additional information, such as the Project Name and Project Number, critical bidder information such as the name of the company, first and last name of the contact, and the contact's email address, and a text field in which the bidder has entered additional information.

The subject line of the email is also included in email notifications sent from a:

- Bidder to Requestor
- Requestor outbound to Bidder
- Requestor outbound to copied users (cc)
- Requestor outbound to External copied users (cc)

To send a Mailbox message from an RFB form:

Open the RFB BP form, and select the **Proposal Management** tab. You can send a message to internal users of the system, which includes your Unifier project/shell team, or to invited bidders.

To send a message to an internal user:

1. Select the **Mail** tab in the right pane.
2. Select **Add**  , and select Mailbox or Project Mailbox to add existing mail from another mailbox, or select New Mail to compose a new message.

To send a message to a bidder:

1. In the left pane, hover over the desired bidder, and select the *gear menu* ().
2. Select **Send Mail** to compose a message.

Note

You will not be able to save a draft copy of composed mail if it is being sent to a bidder.

Bidders will be allowed to view and access Mailbox after they are signed in to the system using a special sign in.

Bidders can also create and add Mailbox messages from the RFB form. The **To** field is auto-populated with the requestor name. The **Cc** and **Bcc** buttons are not available; however, bidders can fill in external **Cc** and **Bcc** fields with external email addresses. When bidders reply or forward Mailbox messages, these will be linked with the record.

Bidders will not be able to create any new Mailbox after the bid due date.

To view a list of emails sent:

1. Select the **Mail** tab in the right pane.
2. Use the column headings to sort the list by **From**, **To**, **Bidder Company**, **Subject**, or **Date**, or use **Find on Page**  to specify search criteria.

Attaching External Emails from the Project or Shell Mailbox to a Record

The system collects all external emails it receives for a project/shell in a dedicated mailbox. You can attach these external emails directly to a business process record. Other users can

view the email from a link on the record. A single email can be attached to more than one business process record.

External emails that have been blind copied (Bcc'd) are not collected by the **Mailbox**.

To attach an external email to a record:

1. Open the business process record to which you want to attach the email.
2. Select **Linked Mail** at the bottom of the form. The Linked Mail window opens.
3. Select **Add**, and choose **Mailbox** or **Project Mailbox**. The **Add from Mailbox** or **Add from Project Mailbox** window opens, showing a list of the external emails that have been received for the project/shell.
4. Select the emails you want to attach to the record, and select the **right arrow**. The system adds the email to the Linked Mail window.
5. Select **done**.

To open an external email attached to a record:

1. Open the business process record.
2. Select **Linked Mail** at the bottom of the form. The Linked Mail window opens, showing the emails that are attached to the record.
3. Select the email you want to view, and use the *gear menu* (⚙) to select **Open**. The system opens the email.

From this email window, you can:

- Reply to the sender
- Forward the email to others in the project/shell
- Flag the email for follow-up
- Clear a Flag from the email
- Delete the email
- Print the email

 Note

You must have permissions to view, reply to, or delete external emails.

To view linked BP records from a Mailbox message:

1. Open the business process record.
2. Select **Linked Mail**. The Linked Mail window opens, showing the emails that are attached to the record.
3. Select the email you want to view, and use the *gear menu* (⚙) to select **Open**. The system opens the email.
4. Below the Subject line is an information icon with the following caption:
This Mailbox and any future replies are linked to business process records.
5. Select the **business process records** link. The system opens the Linked Business Process Records window, which shows a list of all business process records to which this email is attached.

You can select a business process record from the list to view its record details in the right pane.

Sending Attachments for E-Signature

If your administrator has used the **Integration** node to configure and activate **DocuSign** or **Acrobat Sign**, you can send attachments for signature from the **Attachments**. To do this, access the Upper Form or Detail Form of your BP record, and use the **Attachments** tab in the properties pane to initiate the signature process.

The toolbar options and column headings for the **Attachments** tab are:

Item	Description
Attach Files ()	Lets you select a file by way of: • Browse • Document Manager • Custom Print
Publish to Document Manager	Displays the hierarchy and the location of the attachment.
Name	Displays the name of the attachment.
Comments	Displays the comments associated with the attachment.
Revise	Displays the revision information about the attachment.
Envelope Code	If you are using envelopes in DocuSign or Acrobat Sign and a document or group of documents was submitted for an E-signature request, displays the code assigned to the envelope that contains the applicable documents. If an envelope is resubmitted for signatures, the code is overwritten with a new code.
Upload Date	Displays the date that the attachment was uploaded.
Title	Displays the title of the attachment.
Other information about the attachment	Display other information related to the attachment such as Pub. No., Rev. No, and so on.

When you select an attachment in the **Attachments** tab, you can select the *gear menu* (), and conduct the following operations:

- **Review**
- **AutoVue Review**
- **Open in Office for the web**
- **Download**
- **Revise**
- **Rename**
- **Remove**

If DocuSign or Acrobat Sign is enabled for use, the *gear menu* also includes **Self-sign**, **Send for E-Signature**, and **Recall E-Sign Request** options, which are displayed or hidden depending on the status of the attachment. To sign documents within Document Manager and Business Processes using DocuSign or Acrobat Sign, you can select one or more documents and send them to one or more assignees for an electronic signature (e-signature). If you are using envelopes in DocuSign or Acrobat Sign, you can group documents into a single

envelope. When the documents included in an envelope are returned to Unifier, they are consolidated into a single PDF instead of returning as individual attachments.

In addition, you can select a document in the Document Manager or a BP and self-sign it using DocuSign or Acrobat Sign. The **Self-sign** option is available for BP Upper Forms as well as line item attachments. When you conduct a self-sign, the file opens in DocuSign or Acrobat Sign. The status of the signature is reflected in the **Attachments** tab log, **E-signatures** column. After the file is signed (E-Signature status = Completed), the signed file gets added as a revision of the original file (as a pdf file and name appended by "_signed" and indicating the number of times the file was sent for e-signature).

Business Process records

In the **Attachments** tab for a BP Upper Form or Detail Form:

- If you select multiple attachments for which the E-Signature process has not started, or it is complete, the system displays the **Send for E-Signature** option. After you select this option, the **Request eSignature** dialog box appears. You can specify individual users or select a predefined group (for more information on groups, see Using Contact Lists). If you want to specify an order in which signatures must be completed, you must specify individual users. Complete the following steps:
 1. In the **Internal recipients** field, enter the names of Unifier users who should review and sign, or select a group. (You can also use the pick list to select individual recipients or groups.) If there are non-Unifier users who should review and sign, enter their email addresses in the **External recipients** field.
 2. If you need signatures completed by individual recipients in a specific order, select **Sequential Order**, and then select **Change the order of signers** () to set the order.
 3. Complete the **Subject** and **Message** fields, and select **Send**.
If the number of files selected or the size of the files exceeds the limits defined by DocuSign or Acrobat Sign, the system displays an error message. Make the applicable adjustments and try again.
- If the E-Signature process of any of the selected attachments is ongoing, the system hides the **Send for E-Signature** option.
- If you select multiple attachments such that their E-Signature process for at least one of them is In Progress, when you right-click, the system displays the **Recall E-Sign Request** option. If you select this option, a confirmation message appears that indicates *all* files associated with the selected envelope (or envelopes) will be recalled. If you select **Yes**, the files are recalled and the E-Signature status is set to Recalled on the Document log in the Document Manager, E-Signature node, Attachments tab, and File Viewer.

Note

Adding an attachment as a custom print is available regardless of whether E-signatures have been configured for the company or not.

In the **Attachments Review** tab:

- The E-Signature status in the Review window is set as recalled.
- For each selected attachment with E-Signature status as complete, or not started, the system ignores the recall request.

The Review window (similar to the Attachments tab for BP Upper form, or detail form) displays the Send for E-Signature and Recall E-Sign Request actions by way of the:

- Gear menu (⚙)
- Right-click
The right-click options will be visible based on the E-Sign Status of selected attachments. Use the right-click options to send, or recall, multiple attachments for E-signatures. The **Recall E-Sign Request** option is available only to the:
 - E-Signature request sender
 - Document Owner

Note

Other users will not be able to view or act even if all other conditions are met.

E-signature Requests Log (Declining an E-Signature)

If a signee declines an E-signature request, the E-signature **Requests** log captures the E-Signature Status as Declined. When the E-Signature Status = Declined, the tooltip (triggered by placing the pointer on the status), or the *gear menus* (⚙), displays the reason for decline.

E-Signatures Node (E-Signature request)

When you select an E-Signature request from the E-Signatures node, you can see the E-Sign Log tab in the right pane. This contains the message that was sent at the time of sending the E-signature request and a log of all signature requests' statuses. When you expand the Attachments tab for a BP Upper Form or Detail Form, if a file has E-signature requests associated with it, the right pane displays the E-Sign Log tab next to the Preview tab.

Publish from BP to DM

If you attach a file in the DM to a BP record and send it for E-Signature from the BP record, the revised (signed) file will be published back into the DM at the same location from where the original file was attached. This is irrespective of the publish path on the BP record.

The ability to republish DM Document from a BP record lets you choose to republish (move or copy) a revised DM attachment. If this option is selected in uDesigner, the signed file will be published using the Publish Path.

Adding or Viewing a Map (Geocoding)

If the functionality is configured in uDesigner for a business process, you can add an interactive map to a record. The location is based on a property address or longitude and latitude (Geocoding). You can add or view maps from the upper form of these business process types:

- Line item
- Simple
- Text
- Document
- Cost (classification generic)

Maps are supported on company- and project/shell-level BPs. You can also search for a map by an address, longitude, or latitude.

To add a map to a business process:

1. In the BP form, select location pin () next to the **Latitude** and **Longitude** fields. The Latitude/Longitude picker window displays with a map that you can manipulate as needed.
2. Do one of the following:
 - Enter the address of the property to compute the latitude and longitude, and select **Map It**.
 - Enter the numbers for latitude and longitude in degrees, or in degrees, minutes, and seconds, and select **Map It**.
 - Select the map to compute latitude and longitude. A map pin displays the location of your selection.
3. Select **Done** when finished computing latitude and longitude. Latitude and longitude are populated in the corresponding fields on the BP in decimal degrees.
4. If you select the pin icon again, the latitude and longitude values are displayed in the Latitude Longitude picker window and are retained there until you calculate a new latitude and longitude. A map pin on the map indicates the location of the property represented by the current latitude and longitude displayed in the picker.

To view maps from the business process log:

1. Navigate to a business process log.
2. Select one or more records.
3. Select **View Record Location** () from the top toolbar. If no records have been mapped, this icon is not visible. A map opens displaying the various locations that are mapped, indicated by map pins. If the locations indicated on the map are far apart, the map zooms to the closest location.
4. Select a map pin for location details.
5. Select **Close** to close the map.

 Note

If multiple records are selected that have the same latitude and longitude, the map will show only one pin marker.

To view a map for a specific business process record:

1. Navigate to a BP record, and select **View Record Location** (). If the BP has latitude and longitude address details, a map opens displaying the property location, indicated by a map pin.
2. Select the map pin for location details.
3. Select **Close** to close the map.

Adding an Image

In some forms, you can add an image to your project/shell. For example, you can add an image that shows progress on the project/shell information record, pictures of assets related to a specific asset record, or a photo of an employee in the Resource Manager. You can add images to attribute forms in projects/shells, companies, and business processes.

If the Image picker functionality has been added to your project/shell, forms with the functionality display the image name and a virtual box that will hold the uploaded image.

Note

The image name is based on the data element name provided in the design.

To add an image:

1. Open a BP form.
2. Locate the **Image** section of the form from the main tab.
3. Select **Browse**, to search for a file from your computer, or **Document Manager**, to search for a file from the Document Manager.

Valid image file types are:

- .jpg
- .jpeg
- .gif
- .png
- .tif

You can change the image by replacing it with another uploaded image. Images appear on the HTML or PDF formats of printed forms. They appear in print preview as well. The Image picker can be added to all forms except for those in the Cost Manager, Generic Cost Manager, Schedule Manager, and the Document Manager.

Note

The image appears online in the system, but it is not available for printing. Also, images do not appear in UDRs or email notifications.

Adding or Updating a Hyperlink

In some forms, you can add a hyperlink to your project. For example, you can add a hyperlink to equipment documentation, details on a resource, or external websites that contain information pertinent to a BP record. You can add hyperlinks to attribute forms in projects/shells, companies, and BPs.

If the Hyperlink picker functionality has been added to your project, forms with the functionality display a hyperlink name, such as vendor website or internal web page.

To add a hyperlink:

1. Select the hyperlink area on the form (blue link ).
2. Enter the hyperlink name and the Uniform Resource Locator (URL). Only the URL is required. If you enter the name and the URL, the hyperlink displays as the name you entered. If you only enter the URL, the hyperlink displays as the URL.
3. Make sure that the URL adheres to accepted formats, such as starting with an approved protocol, followed by `://`, and then followed by a host name or domain name.

The system validates the specified URL based on the Uniform Resource Identifier (URI) provided by the administrator for your organization, if applicable, and on current standards for URLs.

Examples of HTTP and HTTPS URLs:

`http://MyCompany.com`

`https://YourCompany.net`

Examples of URLs that might include URIs authorized for use by your administrator:

`ftp://UserName:Password@MyCompany.edu`

`ftp://private.ftp-servers.sample.com/MyDirectory/MyFile.txt`

Note

The URL should not reference the same domain that Unifier is using for operation. If you attempt to use the same domain, a warning message will result.

4. Select **Done**.

To update a hyperlink:

1. Select the hyperlink area on the form (blue link ).
2. Below the **URL** text box, select **Clear** to remove the existing hyperlink.
3. Enter a new hyperlink name and URL.
4. Select **Done**.

Viewing Referencing Records

For any business process with referencing records, the system can show you a Reference Records window that displays a graph and a list of the records that the record you are viewing refers to, as well as those records that refer to the record you are viewing. (To see the records, you must have view permissions.)

For example, you might want to view all the change orders that refer to a particular purchase order. For other examples, you could view:

- All the invoices that a commit business process **refers to** so that you can reconcile all the invoices against the purchase order
- All the change order requests that are **referred to by** a specific change commit business process to track the progress of a construction project
- All the lease payment requests that **refer to** a Master Lease, to view and reconcile all payment records for a lease
- All the base commits that are **referred to by** a vendor record to review payment progress
- All the work order BPs refer to a Preventive Maintenance type BP to view all the work orders for a Preventive Maintenance Book (PM Book).

Business process records can reference other records and be referenced using the following features:

- A BP picker on a business process record, including line items

- A BP line item picker on a business process record
- Auto-creation of a record through the workflow (S-Step)
- Auto-creation of a record through meeting specific criteria set up by your administrator
- A data picker

View a List of Referencing Records

The Reference and Linked Records section of the reference records window displays the reference records and the linked records associated with the BP record (both from the Upper form and Detail forms), but the graphical section of the reference records window does not display the linked records.

The grid section of the reference window lists all the linked records associated with the line items including the ones established by means of consolidation.

The record details of the consolidated line item are also displayed in the grid section, and you will be able to open the record from the grid.

To view a list of referencing records:

1. From the business process log, open the record.
2. In the right pane, select the right arrow until you see the **Reference Records** tab. The Reference Records window opens.

The Reference Records window has two components, a graphical representation of the referenced records and a list. The records shown on this window include records from across shells.

The graphic displays:

- Records that the business process references (that is, references to other business processes)
- Records that reference the business process (that is, other business processes that reference the BP you are looking at)

The list displays:

- Records that the business process references (that is, references to other business processes)
- Records that reference the business process (that is, other business processes that reference the BP you are looking at)
- Records that have been linked to the business process via the Linked Records feature ([About Linking Business Process Records to other Business Process Records](#))
- Line items that have been linked to the business process via the Linked Records feature.

Note

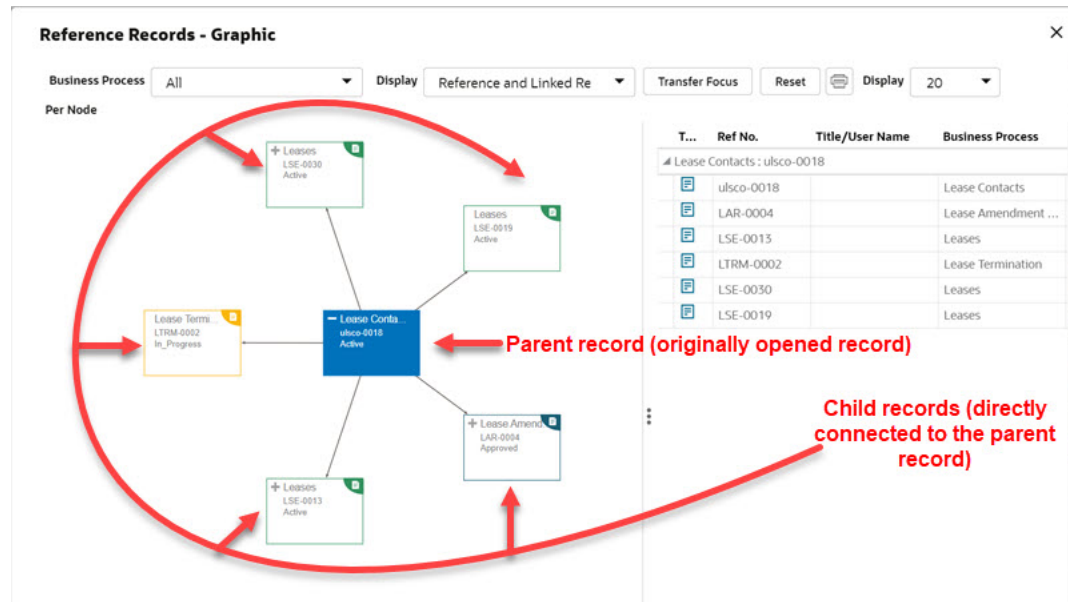
If the record does not reference any records, the only item in the **Reference Records** log will be itself.

What you can do on the Reference Records Graphic window

With the Reference Records Graphic, you can:

- **View high-level record information**

When you first open the graphic, it displays the original parent record that you opened, along with all child records that are directly attached to it. Child records are color coded based on their BP type. If you hover over a record, the system will display the type of record, record number, and record status. The direction of the connection is indicated by a gray arrow, pointing from the parent record to the child record.



On the right pane is a log that displays all the visible referenced records, as well as linked records and line items. Each parent record has a list of all connected child records underneath, which can be collapsed or expanded by selecting the gray arrow next to the record name. The icon in the first column indicates the type of connection that exists between records. If it is a referenced record, a blue page icon is displayed. If it is a linked record, a blue link icon is displayed. If it is a linked line item, a yellow link icon is displayed.

- **Rearrange records**

You can rearrange records by selecting and dragging each record to a desired space in the graphic window.

Note

You cannot select and drag multiple records at a time. Each record must be rearranged individually.

- **Expand the graphic**

You can expand the records in the graphic by selecting the **Plus** icon in the top left corner of a record. All records that are connected to that record will appear with arrows connected to them. If the expanded record is also connected to a record that is already visible, an arrow will appear connecting the two. After it is expanded, the **Plus** icon will be replaced with a **Minus** icon, which you can use to collapse the record. If there is no icon, that means there are no more child records to that record.

- **Move the display (convenient for large graphics)**

You can select and drag any open space in the graphic to move the display, using the mouse wheel to zoom in and zoom out.

- **Filter visible items on the graphic**

There are many ways to filter information on the graphic to focus on specific information. As information is updated on the graphic, the log in the right pane is updated as well. The **Business Process** drop-down menu lets you hide all records except for records of the selected business process type. You can also change the **Display** of the graphic based on the:

- Type of connection
- Number of connected records

In the first **Display** drop-down menu, you can filter the graphic to view only linked records, reference records, or both. In the second **Display** drop-down menu, you can restrict the number of child records that can appear when expanding a record by setting the value to 20, 50, 100, or 200.

- **View or edit a record (if you have permissions)**

From the graphic, you can open a record by double-clicking it from the log or the graphic. In addition, if you have permissions, you can edit and act on the record the same way you would by opening the record directly from a Unifier log. When you finish the edits and close the form, the system will return to the Reference Graphic window. The records you can edit must be at the same level as the focused record. If the referenced record that you open from the graphic resides at another level (such as in a different project/shell or at the company level), you will not be able to edit it; it will open in view mode only, regardless of your permissions.

Note

- If you change the record (including referencing links, linked records, title, status, and so on), the graphic and the reference list on the right pane will not reflect these changes until you select **Expand**, **Collapse**, **Reset**, or **Transfer Focus**.
- The edits and actions you take on the form from the Reference Graphic window will behave in the same way they would if you opened the record from a log; that is, roll-ups will occur, workflow actions and auto-creations will proceed, email notifications will be sent, and so on.
- If you have only view permissions, regardless of where the record is in the workflow, the system will display the view form from the End step of the workflow.

- **Print the graphic**

Select **Print** to open the standard print window for your browser.

- **Transfer the focus of the graphic to another record and its references**

You can change the focus of the graphic to another record and display all its referencing records. The record you transfer to will change to blue to indicate that all referencing records shown on the graphic are now connected to the new record. In addition, the list on the right panel will change accordingly.

- **Reset the graphic**

To set the graphic back to its original state, select **Reset**. This will undo all display changes, record expansions, and focus transfers.

Participating in a Workflow

Each step in the workflow is set up individually. Step-by-step, the administrator can define responsibilities for users and groups through task assignments, completion policies and

resolving action settings, and email notification settings. Non-administrative users can complete business process forms, select **Workflow Actions**, and assign task recipients. They can track business process routing between steps and trace a record's path through the workflow.

Completion Policies, Workflows, and Resolving Actions

Your administrator sets a completion policy on each step in a workflow. This policy determines when the step is considered complete and how the workflow proceeds.

Completion Policies

The primary completion policies include:

- **Single:** Any single user can accept and complete a task, moving the record to the next step.
- **All-Majority:** All assignees must respond, and a majority must agree on the action to move forward. If there is no clear majority, the system uses a *resolving action* to determine the next step.
- **All-Consensus:** All assignees must respond and agree unanimously on the next step. If there is no consensus, the system uses a *resolving action* to determine the next step.

Note

- If the Completion Policy is set to **All-Consensus** and **Auto Creation** is enabled, automatic creation of the applicable items begins only after *all* assignees have agreed on the action.
- For **All-Majority**, if **Advance workflow when next step is determined** is enabled, the workflow moves forward as soon as the majority agrees, even if not all have acted.
- For **All-Consensus**, if **Advance workflow when next step is determined** is enabled, the workflow moves forward as soon as one assignee completes the resolving action, two assignees take different actions, or all assignees take the same action (which might differ from the resolving action).
- For both **All-Majority** and **All-Consensus**, if an assignee is working on a draft and consensus or majority is reached, the draft is deleted, but edits or new line items are retained in the next step.

Status definitions:

The statuses are internal to the system and are used only to display the status of the workflow step relative to the completion policy.

Status	Description
Not Started	The assignee has not accepted the task.
In Progress	The assignee has accepted the task.
Locked	For single completion policy, other assignees lose access after one accepts.
View Only	User was cc'd on the task but not expected to act.
Completed	Task finished with no resolving action needed. At any step, a task can have only one Completed status.

Status	Description
Closed	Task finished, but a resolving action was triggered. The step is revisited as needed. The step the action moves to for resolution shows a status of Not Started . The number of times the task shows a Closed status indicates the number of times the step has been revisited.

Workflows

The completion policy governs the workflow progression, dictating when steps complete and transition to subsequent steps.

- When a majority or consensus is achieved (depending on policy), the workflow moves to the next step as defined.
- If there is only one action available, the system defaults to it, updates relevant users/groups in the **To** and **CC** fields, and may prompt the user if changes are detected in the assignee list after filters or conditional routing are applied.
- Selecting **Send** does not advance the record if conditional routing is unresolved. After resolving the list of users, you must select **Send** again.
- As described earlier, the **Advance workflow when next step is determined** option controls whether the workflow moves forward even if some assignees do not act on a step or if they decline a task. If they decline, they are removed from the count to determine majority. This prevents delays in waiting for all users to act before moving to the next step.
Example: Four assignees are on a step. Two take the same action, and one declines. With the majority reached, the record moves to the next step if the **Advance workflow when next step is determined** option is enabled.
- The **Workflow Progress** tab updates to reflect the status and action for all users who acted on a step. For users who did not act, the status is set to **Closed** and the action remains blank.

Resolving Actions

A *resolving action* determines the path a workflow follows when agreement is not reached per the completion policy (for example, lack of majority or consensus). The workflow can:

- Move to a following step
- Return to a previous step
- Branch to a conditional step, re-addressing the task

The resolving action step must be completed before the workflow can continue. Assignees can include both original and new task assignees.

Working with Tasks

The system helps you collaborate with your team members through business processes (BPs). Your tasks are BP records that are in process and with which you are involved.

After you create and send a workflow BP, the system creates a task for each of the assignees in the next step in the workflow and sends a message to each user that has been Cc'd.

In general, you are assigned a task when you are part of a BP workflow, and you are requested, or required, to take some sort of action. If your Company Administrator enabled Task Assist and Progress Guide, you can also use Task Assist to view what another user

completed prior to you and determine what you need to do. For more information, see [Using Task Assist to See What You Need to Do and What Has Been Done \(Cloud Only\)](#).

If you are designated as an assignee on a task, you will receive an email notification, and the task will appear in your Tasks log.

Taking Action on Your Task

To act on your task, you can use the following sub-options of the **Actions** option:

- **Action with Preview**
- **Action without Preview**

For **Action with Preview**:

1. Go to your **Tasks** log, and **Ctrl+click** the tasks that you want to modify.
2. From the toolbar, select **Actions**, and select **Action Preview**.
The system opens the record that you have selected in a separate window.
3. Modify the record.
4. Select **Save**.
5. Select **Close Window**.

If your tasks have been accepted, the **Action with Preview** option will not be available.

For **Action without Preview**:

1. Go to your **Tasks** log, and **Ctrl+click** the tasks that you want to modify.
2. From the toolbar, select **Actions**, and select **Action without Preview** to open the **Action Without Preview** window.

The **Action Without Preview** window is divided into two panes:

- Use the left pane to edit the **Upper Form** of your business process and perform workflow action (**Workflow Actions**).
Use the **Workflow Actions** to send records to the next step in the workflow, after completing the task, and assign record status such as pending, in-review, and so forth.

The system automatically selects the checkbox under the **Update** column when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

The system updates the field values if you select the checkbox under the **Update** column of that field.

- If you change the value of a field and select the checkbox under the **Update** column of that field, the system will update the value of that field.

- If you erase the value of a field (blank) and select the checkbox under the **Update** column of that field, the system erases the preexisting value of that field.

- Use the right pane to preview the status of the task (**Action Status**).
The Action Status indicates whether your update was a success or not (using a green check-mark symbol or a red x symbol, respectively), and a message explaining why an update has failed.

You can use Action without Preview to create multiple shells using the Project/Shell Creation business process. The Action without Preview functionality in the **Tasks** log supports data elements such as Shell Location and Shell Template pickers (existing in the Upper Form) that are required for shell creation.

3. When finished, select **Close**. The system will update the tasks.

For more information, see [Editing Business Process Records](#).

Taking Action on Multiple Tasks at the Same Time

Use the **Actions** option to take similar actions for multiple tasks.

You can select multiple tasks (Ctrl+click), click **Actions** drop-down list, and perform the following actions:

- **Accept**
- **Undo Accept**
- **Hide**
- **Unhide All**
- **Print**

You can use the following options to modify multiple records:

- **Action with Preview**
 - To open multiple records (one record at a time) and modify the contents.
 - The **Action with Preview** option can be used when records belong to different business processes and different workflow steps.
- **Action without Preview**
 - To open multiple records in **Action Without Preview** window and modify the contents.
 - The **Action Without Preview** option can be used when records belong to the same business process, records have the same workflow name, and records are on the same workflow step.
 - When tasks are updated through the **Action Without Preview** option (in the **Tasks** log), the values of the Data Elements (DEs) that have "Reset" property will not be reset.

The following provides more details about modification of multiple records.

Taking similar actions for multiple tasks that belong to the same business process, and the same step

1. Go to your **Tasks** log and **Ctrl+click** the tasks that you want to modify.
2. From the toolbar, click **Actions**, and click **Action without Preview** to open the **Action Without Preview** window.

The **Action Without Preview** window is divided into two panes:

- Use the left pane to edit the **Upper Form** of your business process and perform workflow action (**Workflow Actions**).
Use the **Workflow Actions** to send records to the next step in the workflow, after completing the task, and assign record status such as pending, in-review, and so forth.

The system displays Master DE, value set DE, and the behavior set DEs (Required, Disabled, Disabled and Clear). If the data element is disabled, it is based on the Master DE and value set DE in the DDS configuration.

- The elements of a DDS, especially behavior set DEs, play a role on many of these actions. This is due to Bulk Update retaining any change brought on by a behavior set DE. For example, if the fields become **Disabled and Clear** based on the

values selected in the Master Data Element, the fields become disabled with no values.

- When you select **Disabled and Clear**, other formula fields are re-evaluated.
- A similar reaction occurs when updating records, as the **Update** checkbox also becomes disabled.

The system automatically selects the checkbox under the **Update** column when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

The system updates the field values if you select the checkbox under the **Update** column of that field.

- If you change the value of a field and select the checkbox under the **Update** column of that field, the system will update the value of that field.

- If you erase the value of a field (blank) and select the checkbox under the **Update** column of that field, the system erases the preexisting value of that field.

- Use the right pane to preview the status of the task (**Action Status**). When working with multiple tasks, you (the assignee) can select multiple records of the same business process and same step and perform the action in one place.

The Action Status indicates whether your update was a success or not (using a green check-mark symbol or a red x symbol, respectively), and a message explaining why an update has failed.

3. When finished, click **Close**. The system will update the tasks.

Taking similar actions for multiple tasks that do not belong to the same business process, and the same step

The **Action without Preview** option can be used to take bulk action on tasks that belong to different business processes, or on the tasks that belong to the same business process and workflow, but are on different steps in the workflow.

1. Go to your **Tasks** log and **Ctrl+click** the tasks that you want to modify.
2. From the toolbar, click **Actions**, and click **Action without Preview**. The system opens each record that you have selected in a separate window.
3. Modify the record.
4. Click **Save**.
5. Click **Close Window**. The system opens the window of the next record.
6. Continue modifying the records, **Save**, and click **Close Window** until finished.

If your tasks have been accepted, the **Action with Preview** option will not be available.

Additional information about taking actions for multiple records

- You can update a maximum of 200 records using Workflow update (**Workflow Actions** in the **Action without Preview** window).
- Only the Upper Form is modified during Workflow update (**Workflow Actions** setting in the **Action Without Preview** window).
- The Workflow update (**Workflow Actions** setting in the **Action Without Preview** window) is not supported on tasks that are on the Initiation step.
- When you send the record to the next step, the system performs validation for the required fields.

- At the company level and project level, when you are acting on multiple tasks, you must have **Allow Bulk Edit** permission for each task.
- For bulk update, the fields are from both Upper Form and Details forms (drawn from integration templates). Some business processes do not support integration. As a result, you cannot take multiple actions on these business processes because integration is used in multiple action.

For more information, see [Editing Business Process Records](#).

Accepting Your Tasks

You must accept a task to complete it.

The best way to accept a task is from the Home tab. You can also accept a task from the specific business process log, provided you have permission to the log (Company Workspace and Project/Shell). See [Accepting Your Tasks](#) for details on how to access the Tasks node in the Company Workspace or Project/Shell.

Note

If the Project/Shell in which a business process resides becomes View-Only, any in-process records will be placed on the View form of the current step of the workflow. If the project/shell is re-activated, the business processes will revert to the Action form.

To *accept* a task from the Home tab:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Tasks**.
3. Hover over the record, and select the *gear menu* ().
4. Select **Accept**.
Alternatively, from the toolbar, select **Actions**, and then select **Accept**, or use the **Task Status** .

To *accept* a task from the specific business process log (Company Workspace and Project/Shell):

1. Go to your business process, and open the log from the **Tasks** node.
2. Hover over the record, and select the *gear menu* ().
3. Select **Accept**.
Alternatively, from the toolbar, select **Actions**, and then select **Accept**, or use the **Task Status** .

To *accept* multiple tasks (of the same BP and same workflow schema):

1. Go to the **Home**  tab or your business process.
2. In the left Navigator, select **Tasks**.
3. Ctrl+click to select the necessary tasks.
4. From the toolbar, select **Actions**, and then select **Accept**.

If the completion policy for the business process is set at Single, upon accepting the task:

- This task is now locked for all other users.
- In the **Workflow Progress** tab of the BP record, the **Action Date** field displays the date and time you accepted the task.

Every task you complete will be deleted from the **Tasks** log (**Tasks** node). Those you do not complete will remain on your **Tasks** log.

Additional information about accepting your tasks

Task Notifications

- If the task belongs to the Create step of a workflow, you will receive a message confirming that the record was (or was not) created successfully.
- If you open a task from a project/shell that is on-hold, the system will notify you and delete the task from the log.

Initiation Step

In general, if a business process has been auto-created and sent to an **Initiation Step**, you will usually need to select a workflow schema to launch the business process into the workflow. When you accept the task, the system displays a **Select Workflow** window, where you must choose the workflow schema this business process should use. See [Creating a Business Process \(BP\) Record](#) for more information.

The system does not display the **Select Workflow** window if:

- The BP is a non-workflow business process.
- There is only one workflow schema you can choose for this business process.

Undoing Accepting Your Tasks

If you change your mind after accepting a task, you can use the **Undo Accept** option, if:

- You are the last person on the task distribution list and everyone else has declined the task.
- You are the only task recipient.

The **Undo Accept** option restores the business process form, and data, back to the state it was in just prior to accepting the task, even if you have made some modifications to it. This applies only to additions or changes made between accepting the task and selecting **Undo Accept**.

Note

The **Undo Accept** is not available for **Initiation Steps**.

The **Undo Accept** will roll back the following to their previous state:

- Changes to Upper Form fields
- Auto-populated fields
- Changes to the action details (To and Cc fields)

Any new additions of the following are removed:

- Summary, detail, or imported line items

- Comments
- File attachments
- Linked records

These changes are not rolled back:

- Changes made to existing line items.
- Anything that is deleted, such as attachments, linked records, linked Mailbox, and line items, cannot be restored. The exception is upper form fields, which will be restored to their previous state.
- Transfer ownership.
- Mailbox messages sent through linked Mailbox.

To *undo an accepted task* from the Home tab:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Tasks**.
3. Hover over the record, and select the *gear menu* ().
4. Select **Undo Accept**.
Alternatively, you can also select **Actions** and then select **Undo Accept**, or use the **Task Status** .

To *undo an accepted task* from the specific business process log (Company Workspace and Project/Shell):

1. Go to your business process, and open the log from the **Tasks** node.
2. Hover over the record, and select the *gear menu* ().
3. Select **Undo Accept**.
Alternatively, you can also select **Actions** and then select **Undo Accept**, or use the **Task Status** .

To *accept multiple tasks* (of the same BP and same workflow schema):

1. Go to the **Home**  tab or your business process, and open the log from the **Tasks** node.
2. Ctrl+click to select the necessary tasks.
3. Select **Actions**, and then select **Undo Accept**.

Upon undoing an accepted task, for all other users:

- The task is unlocked, and the task status is now set to **In Progress**.
- In the **Workflow Progress** tab of the BP record, the **Action Date** field displays the date and time undo task action was invoked.

Declining a Task

Sometimes you have the option of declining a task. If you are the only person assigned to a step in the workflow, or if the creator of the workflow has not granted permission to decline a task, this is not an option.

To *decline* a task from the Home tab:

1. Go to the **Home**  tab.
2. In the left Navigator, select **Tasks**.
3. Hover over the record, and select the *gear menu* (.
4. Select **Decline**.

To *decline* a task from the specific business process log (Company Workspace and Project/Shell):

1. Go to your business process and open the log from the **Tasks** node.
2. Hover over the record, and select the *gear menu* (.
3. Select **Decline**.

On declining a task:

- It is no longer displayed for you in the **Workflow Progress** tab of the BP record.
- For all other assignees, the status of this task remains **In Progress**. The **Action Date** in the **Workflow Progress** tab of the BP record reflects the point in time that the task status has changed.
For example, if a person accepts the task, it goes to In Progress for that person and Locked for all other assignees. The Action Date field reflects this for all other assignees. If that person later selects Undo Accept Task, it goes back to Not Started for all assignees, and the Action Date field is updated for all. If any of them declines, their task drops off, but since the status has not changed for the remaining assignees, the Action Date is not updated.

 Note

You cannot decline if you are the only assignee.

Completing a Business Process Form

To complete a business process form:

1. Review the form carefully. If you have the proper permissions, you can perform the following functions, if the business process is set up for them or is of the proper type to accommodate them.
 - Make changes or additions in editable fields of the business process.
 - Add, edit, or remove line items or summary line items (see [Adding and Managing Line Items](#)).
 - Add or view file attachments (see [Working with File Attachments and Markups](#)).
 - View or add general comments (see [Adding and Managing Comments](#)).
 - Add or review graphic markups to an attached document (see [Add Markups to a Business Process Attachment](#)).
 - Provide a link to another completed BP form. Other participants will be able to select the link and view the referenced BP form (see [About Linking Business Process Records to other Business Process Records](#)).
2. In the **Action Details** area of the form, designate the next assignees (users and groups) who will receive the next step in the workflow as a task. (See [Assigning Users for the Next](#)

[Step or Sending a Copy](#)) You can choose the next users to send the BP to if the BP has been set up this way. Some BPs have a fixed workflow. If this is the last step in the workflow, this is not applicable.

You may also be able to designate the **Task Due Date** for the next assignees. (See [Modifying Step Due Date](#).)

3. When you have completed any necessary edits or additions, select an action or workflow action from the **Workflow Actions** drop-down list. If there is only one possible workflow action for a step, the action is auto-populated in the field. The action you take depends on the task assigned. For example, if this is a review step, an action that you may be able to take is "approve."
4. Select the **Send** button.
 - If the workflow is not yet complete, the form will be forwarded to the next team members in the workflow.
 - If the workflow is complete (that is, your input was the last step of the workflow), the record will appear as complete in the business process log.

Note

You can also save your work as a draft at any point. This is recommended if you are going to leave your desk or have a lot of work to do on it. There is no autosave. If you change your mind after making a selection, select **Undo Action**, and then choose another action. In Classic View, after you have accepted the task or initiated an action, you can still review what you received prior to doing so without having to undo. Select **View**, and then select **Received** or the **Click here to view latest content** button. The system displays another pop-up window of the original record as you received it. [Assigning Users for the Next Step or Sending a Copy](#)

Assigning Users for the Next Step or Sending a Copy

Assigning users, and workflow routing, must be done after opening a record.

Depending upon the workflow configuration and your user permissions, you may select one or more users or groups to whom the form will be sent as the next step in the workflow. The assignee fields are:

- **To:** The users or groups that you choose will be assigned the next task in the workflow. Team members listed will receive an email notification of the task. This can include users designated as Editors on the task, as well as proxy users.
- **Cc:** These users and groups receive an email notification and a copy of the BP record in their Message log. They can review the record but cannot act on the workflow.
- **Contact List:** If the Contact Lists feature is enabled for the BP and step, the members of the selected lists also receive an email notification of the action that has been taken.

Depending on the workflow setup, you may also be able to set the due date for the next step.

Assigning Users for the Next Step

You can assign a user for the next step from the tasks log (**Tasks** functional node in the Home tab, Company Workspace, and Project/Shell).

1. Go to your business process, and open the log.
2. Select the record, select the *gear menu* () , and select **Open**.

3. When you are finished editing the form, select **Send** to open the **Workflow Action Details** window.
4. In the **To** field, click **Select** to the right of the text box. The **User and Group Picker** window opens. Alternatively, you can start typing in the text box for suggested users based on your entry.
5. Select names from the Available Items list, and select **Add Selected** (singular right arrow), or **Add All** (double right arrow) if you would like to add everybody on the list.
6. Select **Done** when finished.

When the business process form is sent, each member will receive an email message regarding their task assignment and a copy of the BP form in their **Tasks** log.

Notes regarding inactive users:

If a task is sent to other users for review, it may be sent back to the initial user for revision. In this case, if the **Include only previous action takers** option is selected for the business process, the match step setting determines the response.

- If Assignees is set to Dynamic with **match step <Creation>**, and the user that initiated the last step is *no longer active*, the system displays the following message:
"The system cannot send the record to the next step as step assignee is no longer active. Do you want the system to send an email notification about the error and appropriate action to the Administrator?"
 - If you select **Yes**, the message is dismissed and the system automatically sends an email to the administrator or administrative group specified in the Business Process setup, as shown in the following image. If the administrator or administrative group is not active, the system sends an email to the company or project/shell administrator. An administrator must transfer ownership of the record because the task cannot be reassigned.

The screenshot shows the 'Action Items - Business Process Setup' window. It has tabs for General, Settings, View Forms, Record Properties, Notification, and Auto Creation. The 'General' tab is active. The 'Setup Name' is 'Action Items' and the 'Description' is empty. At the bottom, there is a 'Send error notification to' field with the text 'Project Administrators' and a 'Select...' button. This field and button are highlighted with a red rectangle. There are also 'Add...' and 'Remove...' buttons next to the 'Send error notification to' field.

- If you select **No**, the message is dismissed and no further action is taken.

In both of the preceding cases, the **To** field in the **Workflow Action Details** window is not populated with any user or group, and the workflow cannot progress until an administrator acts.

- If Assignees is set to Dynamic with **match step <any step>**, and the user that initiated the last step is *no longer active*, the system displays the following message:
"The system cannot send the record to the next step as step assignee is no longer active in the project. Select another assignee who is currently active on this step."

After you select **OK** to dismiss the message, the system displays the **Workflow Action Details** window again. In the **To** field, click **Select**, and select a different user based on the filter conditions defined for the workflow setup.

These issues can also occur when records are sent through REST, Bulk Action, Email Action, or using Unifier Mobile.

- Bulk Action with Preview and Mobile application: The system behaves as described earlier for match step <Creation> and match step <any step>.
- Bulk Action without preview, Email Action, and REST services (UpdateBPRecordV1 and UpdateBPRecordV2):
 - For **match step <Creation>**, the system displays: "The record cannot be sent to the next step as the assignee for {step name} step is no longer active. You can change the record ownership or change the Workflow Setup to send the task to an active user."
 - For **match step <any step>**, the system displays: "The record cannot be sent to the next step as the assignee for {step name} step is no longer active. You can change the Workflow Setup to send the task to an active user."

Sending a Copy of the Business Process Form

If you must send a copy of a business process form to another user or members of a contact list:

1. Go to your business process, and open the log.
2. Select the record, select the *gear menu* () , and select **Open**.
3. When you are finished editing the form, select **Send** to open the **Workflow Action Details** window.
4. In the **CC** field, click **Select** to the right of the text box. The **User and Group Picker** window opens. Alternatively, you can start typing in the text box for suggested users based on your entry.
5. Select names from the Available Items list, and select **Add Selected** (singular right arrow), or **Add All** (double right arrow) if you would like to add everybody on the list.
6. If the Contact Lists feature is enabled, select the lists in the **Contact List** field.
7. Select **Done** when finished.

When the business process form is sent, each member will receive an email message and a copy of the BP form in their **Notifications** log.

Note

The BP form may be set up to have pre-assigned **Cc** users. In this case, if the **Cc** button is enabled, you can add additional **Cc** users. If not, the BP is not set up to allow additional **Cc** users. You cannot remove pre-assigned **Cc** users.

User Picker and Group Picker

With the introduction of profile picture, the **User Picker**, **User Data Picker**, and **User and Group Picker** include the profile picture, before the User name.

User Picker

This picker has the list of users. For users who have uploaded their profile picture, their picture will be displayed. If there are no pictures, the system displays the initials of the user's first and last names.

User Data Picker

This picker has the list of users. For users who have uploaded their profile picture, their picture will be displayed. If there are no pictures, the system displays the initials of the user's first and last names.

Depending on how the business process (BP) form is configured, the user data picker, in any business process (BP) record, can be used to auto-populate the user attribute values of the fields corresponding to the selected user in the BP form.

User Group Picker

This picker has Groups followed by Users. For users who have uploaded their profile picture, their picture will be displayed. If there are no pictures, the system displays the initials of the user's first and last names.

View User Profile

The **View User Profile** window lets you see the profile for multiple users who are assigned to, or cc'd in, workflow tasks. This window opens when you select a highlighted user name within a form.

The left section of the **View User Profile** window lists the users, and the right section displays the following for the user:

- Basic Information
- Additional Information

You can view the user attributes from both the company and the shell directories.

If the **Apply values for the picker log from Project directory** option is selected, the system fetches the user attribute data from the project directory. The data that is displayed under the project directory (**User** mode) can be fetched from the shell level when the project directory option is selected. When the user's name is launched from the shell, the project/shell-level information is fetched as defined at the shell level.

Modifying Step Due Date

If the step duration and workflow override are enabled on the business process, you can also set the task due date for the next step.

To change the task due date:

1. In the **Due Date Details** section, select the **Calendar** icon. The Task Due Dates window opens.
2. Choose one of the following options:
 - **Set all task due dates as:** Lets you set the same due date for all assignees.
 - **Set individual task due dates:** Lets you assign different due dates for each assignee one at a time.
3. Select the **Calendar** icon to set the due date. For the second option, select the date listed in the **Task Due Date** column.
4. Select the month and year, and then select the date you want to select.

Note

The workflow engine uses the company workday calendar. Grayed-out dates are those that have been set as non-working days (for example, weekends and holidays) by your company administrator. You cannot select non-working days for a task due date.

Adding Additional Assignee or Sending Additional Copy

The current step assignee can add assignees to the next step in the workflow. This is useful if you want to send a copy of the record or add another assignee before you act on it.

You can add additional assignees or copy users if:

- You have not yet accepted the task, and the form is still in view form. If you have already accepted the task, you can reverse the action by selecting **More Actions**, and selecting **Undo Accept Task**.
- The business process workflow has been set up to allow adding assignees or allowing to Cc.

Adding Additional Assignee

You can add additional assignees or copy users from the tasks log (Tasks functional node of the Home tab, Company Workspace, and Project/Shell).

Note

Adding additional assignees must be done after opening a record.

To add an additional assignee to a task:

1. Go to your business process, and open the log.
2. Select the record, select the *gear menu* () , and select **Open**.
3. From the **More Actions** menu, and select **Add more assignees**.
The User and Group Picker window opens (to learn how to search and use the picker refer to the *Unifier General User Guide*). The list displays the list of users or groups that can be assigned, according to the business process setup.
4. Follow the assign team members procedure to select users or groups.
5. Select **Done**.

The user or group will be added to the list of assignees. The record will appear in each new user's Tasks log and applicable business process log, and users will receive an email informing them of the task, depending on their email subscription preferences.

Sending Additional Copy of Business Process Form

To send a copy of a business process to additional users:

1. Go to your business process, and open the log.
2. Select the record, select the *gear menu* () , and select **Open**.

3. From the **More Actions** menu, select **CC more users**. The User and Group Picker window opens. The list displays the list of users or groups that can be copied according to the business process setup.
4. Follow the assign team members procedure to select users or groups.
5. Select **Done**.

The user or group will be copied. This means that the record will appear in each new user's **Notifications** log and applicable business process log, and the users will receive an email informing them of the copy, depending on their email subscription preferences.

You can copy more users on the **End** step, if the following conditions are met:

- The signed in user is not a **Step Editor**, and
- The signed in user is not a **Record Editor**.

The restrictions for **Record Editor** and-or **Step Editor** are not applicable to creators. A creator can add more users because the creator is the owner of the record. This ability remains whether the creator belongs to the **Record Editor** group or the **Step Editor** group.

Completing Tasks via Email

You may receive BP-related email notifications that contain hyperlinks that represent actions in a BP workflow.

Actions you can take via email are shown as hyperlinks and represent actions you can take in a workflow step. When you select the hyperlink, an email reply is generated. Your reply text becomes a general comment in the BP record, except in the case of Document Type business processes; reply text is not attached for those business processes. Assignees need to be pre-assigned on the workflow steps for the email workflow action to occur. Attachments can be included in the workflow action replies if the BP is set up to include them. Email clients supported for workflow actions via email include HTML and text. If you are using a text client for your email, the possible actions are listed, but are static text (not hyperlinks). In that case, you can reply to the email manually and provide the appropriate To, Subject, and body text. Your subject should be the name of the action you want to take as shown in the email notification.

Your subject should be the name of the action you want to take as shown in the email notification.

Tasks that are assigned to you are listed in your **Tasks** logs. The **Tasks** logs display business process-related tasks in which you are being requested to participate. For details about Tasks, see Tasks.

The following tasks may appear in your Tasks logs:

- You are part of a business process workflow and are requested or required to take some sort of action.
- You are designated as the Initiation step assignee for an auto-created business process.

Validation for email task flow actions are as follows:

- Email address must match that of the assignee
- Valid Notification ID/Password (NID)
- Active (Unifier) User
- BP record has not moved or been terminated
- Record has not already met completion policy

- Assignees must be Preassigned at the destination step

To respond to a workflow task directly from email:

1. Open the email notification.
If **Response via email** has been enabled in the business process design, the email includes action links. The email message also displays data from the business process form.
2. Review the email, and then click an action link. In an email program such as Outlook, this will create a response email.

Note

(1) Do not change the subject line of the email. Changing the subject line text will cause the email response to fail. (2) If you are using a text client for your email, you can open a new email message, copy the subject line of the notification, and paste it into the subject line of the response email.

3. If applicable, add text to the body of the email. This will create a **General Comment** on the business process record.

Note

Email response text is not saved as General Comments for Document Type business processes.

4. If applicable, add file attachments to your email response.
If the business process has been set up to accept attachments, they will be added to the record in the system. If the business process does not allow attachments, attachments you add to the email response will be ignored. If a file exists on the record with the same name as the file you are trying to send, your attachment will be ignored.
5. Send the email, which will send the action to Unifier.

For all Workflow Business Processes where the steps are enabled for "Enable Response via email," the following Workflow processes are completed when you perform, or approve, a task via email:

Capture of Workflow progress elements in the form:

- Taken By
- Action Name
- Taken On

Formula calculations on the form:

When the record progresses to the next step, the system evaluates the formulas on the form that are associated to the Workflow.

Form level validations:

Form-level validations are applied. If there are any errors, it will not advance the Workflow to the next step.

Additional form processing:

- Auto population (sum of line items)
- Dynamic Data Set (DDS) check: The system performs DDS checks prior to routing the record to the next step when action is taken through Email.

Note

If the step where the action is being performed has a DDS behavior set field which is required, and that field is empty, the record will not progress to the next step.

Reset Form: Data Elements (DEs) in the form that have the Data Entry as Reset are processed when the record is progressed to the next step via email action.

Auto-Population for Behavior Set DEs

The data fields in a business process form can be updated through auto-population, including those in a behavior set of a DDS. Auto-population can occur during the creation of a form or during the selection of a picker value within a form. If the value of a Master Data Element clears a previously entered value of a behavior set data element and disables it, any fields auto-populated from the behavior set data element are re-evaluated.

Similarly, any formulas dependent on the behavior set data element are re-evaluated. For example, in an **Upper** or **Detail** form, when a behavior set DE changes, the auto-population fields do not change. In the case of selecting a picker value, when the value of a picker changes, the auto-population fields do change.

Additional Processing

Query and Summary DEs:

Query and summary-based DEs, in the subsequent forms of the Workflow, are populated correctly when the record is progressed to the next step via email action.

Other post processing logic:

- Reverse auto population
- Roll-up to Cost sheet
- Roll-ups to other sheets
- Auto Creation - S-Step
- Auto Creation - I-Step and so on

About Email Notifications for Business Processes

Email notifications are designed and set up by the Unifier Administrator. To initiate this feature for yourself, you must set up an option in your user preferences that specifies that you want to receive these notifications.

Refer to *Unifier General User Guide* for information about selecting email subscription options.

After you make this specification, you will be notified whenever a business process (BP) to which you have been assigned is created, modified, or closed.

In addition, if you are creating or editing a BP that has been set up for email notifications, you can notify additional users or groups at your discretion.

Users who receive email notification (based on events triggered) will see the data elements based on configured email notification elements which is across all view forms for Workflow BPs. For Non-workflow BPs, the email notification received will show all the data elements based on configured email notification elements set up across all upper forms.

If Form Documents are included in the BP through the Document Picker, they are included as attachments with the email notification unless a BP restriction prevents the recipient from downloading attachments or hides the Attachments tab. If the Email Notification setting is designed to include the specific fields associated with the Document Picker, the filenames of the required documents are included in the email in all cases.

Email Notifications for Workflow Business Processes

You may be notified by email when you have a new task, if you are late responding to an assigned task, you are an editor on the task (in which case, you receive notification each time a draft is created), or if you were the creator of the business process and someone has acted on their task.

Depending on your company Unifier email notification setup, and your own user preferences, you may receive such emails one at a time as the task is generated, or you may receive one daily email digest summarizing all the day's email notifications (including non-business process related notifications).

Note

Email notifications can be configured in your user preferences.

If you receive an email notification

You may receive BP-related email notifications for the following:

- You have a new task. A task can be generated if you must act on a BP workflow step. Select the hyperlink at the bottom of the email. When you select the link, you will be directed to the Unifier sign in screen. After you sign in, the system will display the record, where you can complete the form and send it to the next step.
- You are late responding to an assigned task. The actions you can take are similar to when you have a new task.
- You are the owner or creator of the BP and someone has acted on their task. This is a notification only and no action is required.
- You are an Editor on a task (you receive notification each time a draft is created).
- You are designated as an active proxy user, and the user you are acting for has received a task.
- A BP workflow has been completed. This is a notification only and no action is required.
- You must take action during a BP workflow.

Email Notifications for Non-Workflow Business Processes

Your company may require that **non-workflow** business processes be acknowledged when they are created, modified, or closed (terminated).

Email notifications for non-workflow business processes include the fields from the business process that were chosen to appear on the email. The notification also includes a link you can select that will open the record for you to view.

When you select the hyperlink, you will be directed to the Unifier sign in screen. After you sign in, the system will display the record, where you can complete the form and send it to the next step.

The email will display summary information, such as:

- What record was created
- Which upper form fields have been modified
- Comments that have been added to the BP or a line item
- Line items that have been added, edited, or deleted
- General comments that have been added to the record (excluding any hidden comments)
- Attachments that have been added or removed

Managing Business Process Records

The following topics describe how to manage business process records.

Transferring Ownership - Business Process Records

If you are a BP record owner or creator, you can transfer ownership at any time in the workflow process, other than the initiation step, creation step, or after its termination step. The new owner will have all privileges of a BP owner, and the originator name on the BP form and the log will show the new owner.

To transfer ownership within a BP record:

1. Open the BP record.
2. From the **More Actions** menu, select **Transfer Ownership**.
The **Transfer Ownership** window opens to display the **User Picker**.
3. Click **Select** () to the right of the text field, or type a User Name into the text box. If you start typing, a list of suggested users will appear below.
4. If you clicked **Select**, select a user from the **User Picker** window, and click **Select**.
5. Select **Transfer** when done.

To transfer ownership from a BP log:

1. Open the BP log.
2. Hover over a record, and select the *gear menu* ().
3. Select **Transfer Ownership**. The **Transfer Ownership** window opens to display the **User Picker**.
4. Click **Select** () to the right of the text field, or type a User Name into the text box. If you start typing, a list of suggested users will appear below.
5. If you clicked **Select**, select a user from the **User Picker** window, and click **Select**.
6. Select **Transfer** when done.

Alternatively, you can select **Transfer Ownership** in the **Actions** menu to complete the same process.

Granting or Updating Record Permissions for Non-Workflow Business Processes

To grant or update permissions:

1. Create a BP record in the Company Data Manager, Company General, or project/shell General log.
2. Select one or more BP records.
3. From the toolbar, select **Actions**, and then select **Permissions**. You can also select the *gear menu* (⚙️) and select **Permissions** to assign permissions to only one BP Record. The Permissions window opens.
4. In the Permissions table, type the user or group name in the **Add** box and select the user or group to grant access.
5. By default, each listed user or group will be granted **View** permission, allowing them to open the BP Record. To grant additional permissions, select the checkboxes that correspond to the user or group:
 - **All:** User will have **View**, **Edit**, and **Modify Permission**.
 - **Modify Permissions:** Allows user to control the BP record's permission settings.
 - **Edit Data:** User can import BP record information, save a snapshot, edit BP record properties, and add columns.
 - **View:** User can view the BP record.
6. Select **Save**, or select **Save & Next** to go to the next worksheet.
When you change settings in the Permissions window, the **Save** button is enabled. After you select Save, a spinning wheel appears while your changes are saved and then the Save button is dimmed.

When editing one record at a time, select the **left arrow** to view the previous BP record or the **right arrow** to view the next BP record.

After exiting the Permissions window, the Permissions tab will be refreshed with the updated information.

Note

You must have permissions for specific business process logs to create or view records. Contact your project/shell administrator if you are having trouble accessing BPs or BP logs to which you need access.

Editing Business Process Records

When a workflow business process (BP) is in route, depending upon your permission settings, you can add or edit information on the form. A non-workflow BP can be edited as needed, as well.

You can be designated as either a step editor on a specific step in a workflow, or as a record editor. As an editor, you must have at least the "View" permission to be able to view the record in the log and access it for editing.

- Step editors cannot edit a workflow record until the task assignee accepts the task and saves the draft.
- Edits made and saved by assignees are not viewable until the assignee sends the record on to the next step; however, edits made and saved by record editors are viewable at any time.
- Edits performed on the end step of a workflow BP affect the record directly, as no draft exists.

For details about editing your tasks records, see [Taking Action on your Task](#).

Behavior of the Due Date (due_date) Field

In the **Workflow Settings** field in the **Workflow Setup** of a BP, if the **Override Workflow Due Date** field is set as **Yes**, you *can* edit the due date in the creation step. Also, a due date added or updated through file imports (CSV or Microsoft Excel) will be used.

If the **Override Workflow Due Date** field is set as **No**, you *cannot* edit the due date in the creation step. Also, you cannot edit the due date if the work has started or the work has moved to the next step (is in-flight) in the workflow process.

When you create workflow BP records through file imports (CSV or Microsoft Excel), the system currently sets the Due Date automatically based on the **Workflow Settings**; the Due Date provided in the input file is ignored. Also, when you update workflow BP records through file imports (CSV or Microsoft Excel), the system uses the Due Date that was based on the **Workflow Settings** and ignores the Due Date provided in the input file.

Editing a BP Record for Editors

You can be designated as either an Editor on a specific step in a workflow, or as a Record Editor. As an Editor, you must have at least view permission to be able to view the record in the log and access it for editing.

Note

- Step editors cannot edit a workflow record until the task assignee accepts the task and saves the draft.
- Edits made and saved by assignees are not viewable until the assignee sends the record on to the next step. However, edits made and saved by record editors are viewable at any time.
- Edits performed by editors are not audited; however, changes made by record editors are audited.
- Edits performed on the end step of a workflow business process affect the record directly, as no draft exists.

Concurrent editors in a business process

While a workflow BP is on a step, or a non-workflow BP is in Edit mode, the system saves edits to fields, but does not commit the changes. For example, if editor one revises fields 1 to 5 and then saves the record, and editor two revises fields 6 to 10 and saves, the record retains all 10 edits. However, if editor two revises field 4, and saves the record after editor one saved the record, the data from editor two overwrites editor one's revision.

Note

Non-workflow Cost BPs cannot be updated concurrently. If a Non-workflow Cost BP record is updated through the following means, and the record is being updated by a concurrent editor, there will be a slight delay in the process because the update call will need to wait until any previous transactions are completed.

- Upper form - updated via form view, bulk update, REST, RAP, Email action, as a result of Autocreation
- Lineitems - created via form and grid views, CSV, REST, lineitemcreator DE, consolidation, copy
- Lineitems - updated via UI, REST, RAP, as a result of Autocreation
- Lineitems - deleted via UI, REST

To edit a non-workflow BP that is complete, open the BP, and select **Edit**.

Note

- If the BP is in a terminal status and you select **Submit**, the system disables the **Edit** button and the form can never be edited again.
- If you update a record for which the current Status has been set to Inactive, you must select a different Status to continue with the update.

You can edit a workflow BP during the workflow process.

Note

If a view form is used on a terminal step, further editing is not possible.

You can add comments if you are not a task assignee, provided that you have the following permissions for business process records:

- **View**
- **Add General Comments**

In this scenario:

- You only can add general comments when the business process record is in View mode.
- You will not be able to hide comments. The Hide Comment option is available for task assignees who are working on an accepted task (an Action form associated with the workflow step).

Editing a BP Record from Master Log - Business Processes Node

You can edit a Project/Shell BP record from the master log (**Master Log - Business Processes** grouping node), if you:

- Are an active member of the project, shell, or sub-shell

- Have the appropriate permissions in the associated project/shell.

 Note

The name of the **Master Log - Business Processes** grouping node can be customized.

When you open a BP record from the master log, the record will open in either **Edit** or **View** mode, depending on the user permissions associated with that record in the Project/Shell.

For editing workflow BP records:

- After you open a BP record from the master log, the Project/Shell permissions are in effect.
- You can accept a task and act on the workflow BP record by opening the BP record from the master log, if you are the assignee on the current workflow-step in the BP. If not, the BP record is opened in **View** mode only.
- You can add general comments if you are a cc user on a particular step.
- You can add general comments provided that the current step has general comments option enabled.
- If you are not an assignee on a particular step, you must have **Bulk Edit** permission on the BP record, in the master log, to edit data elements on the record.

For editing non-workflow BP records:

- If you have **Edit Data** permissions for a non-workflow BP record, you can open the record from the master log and proceed to edit the BP record.
- If you are an **Editor** of a non-workflow BP record, you can open the record from the master log and proceed to edit the BP record.

To edit a BP record from the master log:

1. Go to the **Home**  tab.
2. Select the **Master Log - Business Processes** grouping node.
3. Select the BP record that you want to edit.
4. Select the *gear menu* () , and select **Open** to open the BP record.
5. When finished editing, select **Save**.

Editing Multiple BP Records (Bulk Edit)

If you have many projects/shells with several business processes in the same state, you can edit/modify (update) multiple BP records (bulk edit) at once.

To edit/modify multiple BP (bulk edit) records through integration:

- An interface must have been defined.
- You must have permission to perform bulk edit (Allow Bulk Edit).

Note

- You can update a maximum of 200 records using bulk workflow update.
- It is recommended to add those fields to integration which can be updated. Exclude fields such as formulas, and system fields such as **Record No**, **Creator**, and **Record Status** in workflow BPs.

You can edit/modify multiple BP records, both the workflow and non-workflow, at the following levels:

- Project
- Shell
- Company

You can edit/modify multiple BP records (bulk edit), both the workflow and non-workflow, from the following grouping nodes:

- **Company Logs**
- Project/Shell **Logs**

Note

You cannot update the Bidders email addresses in bulk (bulk update through Bulk edit) or within multiple records. You can only change a Bidder's email address in a single record.

You can also update upper form data and line item records of multiple Simple and Line Item type BP records from the **Business Process Log** node.

Bulk Editing BP Records From the Company Log Node

To edit/modify multiple BP records (bulk edit), both the workflow and non-workflow, from the **Company Logs** node:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, expand the **Company Logs** grouping node.
3. Select the desired BP to open the BP log.
4. From the log, Ctrl+click to select the BP records that you want to edit.
5. From the toolbar, select **Actions**, and select **Bulk Edit** to open the **Bulk Edit** window.
 - a. In the left pane, edit the Upper Form of your business process.
The system automatically selects the Update checkbox when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.
 - b. In the right pane, (Action Status), preview the status of each record.
6. When finished, select **Close**.

Bulk Editing BP Records From the Logs Node

To edit/modify multiple BP records (bulk edit), both the workflow and non-workflow, from the Project/Shell **Logs** node:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, expand the **Logs** grouping node.
3. Select the desired BP to open the log.
4. From the log, Ctrl+click to select the BP records that you want to edit.
5. From the toolbar, select **Actions**, and select **Bulk Edit** to open the **Bulk Edit** window.
 - a. In the left pane, edit the Upper Form of your business process.
The system automatically selects the **Update** checkbox when you type into or modify a field. You can deselect the **Update** checkbox if you do not want to modify the field at this time.
 - b. In the right pane, (Action Status), preview the status of each record.

Note

Bulk Edit ignores data elements with a formula. As a workaround, add the desired data element that does not have a formula to the integration form with the direction set as *Both* or *Input*. During bulk edit, add the desired value to that DE. For more information on updating the integration form, see *Creating an Upper Interface*.

6. When finished, select **Close**.

Additional information about editing/modifying multiple BP records (bulk edit)

The **Bulk Edit** option (for multiple BP records) lets you edit the fields from the Action Form (Upper Form) of the current step in the workflow.

In a non-workflow BP, you can use Bulk Edit to update the Record Status if the record has not reached terminal status or the record is not terminated. The Bulk Edit window only shows active statuses.

You *cannot* use the **Bulk Edit** option for multiple BP records to edit:

- Initiation Step (I-Step) records
- Fields in a dynamic data set
- Fields from line items
- BP Line Item Data Picker
- BP Data Picker if it has an associated Line Item Data Picker configured
- System-defined fields, such as record number, status, or due date

Note

If the Record Status defined for any of the targeted business processes been inactivated, an error is displayed, and those business processes will not be updated.

The **Bulk Edit** option for multiple BP records is *not available* for the following BPs:

- Resource Booking BP
- Timesheet BP

- Single-record BP

Fields that are configured for auto-sequencing are not available for bulk edit because the values for these fields are system-generated.

You *cannot* use the **Bulk Edit** option for single, or multiple, BP records to update a field that has value uniqueness configured.

You can update a maximum of 200 records using Workflow update (**Workflow Actions** in the **Action Without Preview** window).

Only the Upper Form is modified during Workflow update (**Workflow Actions** in the **Action Without Preview** window).

The Workflow update (**Workflow Actions** in the **Action Without Preview** window) is not supported on tasks that are on the Initiation step.

When you send the record to the next step, the system performs validation for the required fields.

At the company level and project level, when you are acting on multiple tasks, you must have **Allow Bulk Edit** permission for each task.

For bulk update, the fields are from both Upper Form and Details forms (drawn from integration templates). Some business processes do not support integration. As a result, you cannot take multiple actions on these business processes because integration is used in multiple action.

The system does not allow Bulk edit of Data Picker or BP Picker based on a query.

Editing Multiple BP Records (Bulk Edit) from Master Log - Business Process Node

If you have the **Allow Bulk Edit** permission, you can select one or more business process records from a master log (**Master Log - Business Processes** grouping node) and perform bulk edits on those selected records.

Note

The name of the **Master Log - Business Processes** grouping node can be customized.

You can select records across projects/shells to perform bulk edit.

The following Data Definitions cannot be modified using Bulk Edit in a Master Log:

- Image Picker
- Company Picker
- Group Name Picker
- User Picker
- Project Picker
- BP Creator

To edit multiple BP records (bulk edit) from the master log (availability based on permission):

1. Go to the **Home**  tab.
2. In the left Navigator, select **Master Log - Business Processes**.

3. Select the BP record that you want to edit.
4. From the log, Ctrl+click to select the BP records that you want to edit.
5. From the toolbar, select **Actions**, and select **Bulk Edit** to open the **Bulk Edit** window. The window is divided into two panes. Use the left pane to edit the Upper Form of your business process.

The system automatically selects the Update checkbox when you type into or modify a field. You can deselect it if you do not want to modify the field at this time.

Use the right pane (Action Status) to preview the status of each record.

6. When finished, select **Close**.
7. Proceed with your edits, save, and close the window.

Note

In the **Home** tab, when records from different projects are opened from the **Drafts** log, **Tasks** log, or **Master Log - Business Processes** node, the message, *Leave site?*, is suppressed.

Additional information about editing/modifying multiple BP records (bulk edit)

The **Bulk Edit** option (for multiple BP records) lets you edit the fields from the Action Form (Upper Form) of the current step in the workflow.

You *cannot* use the **Bulk Edit** option for multiple BP records to edit:

- Fields in a dynamic data set
- Fields from line items
- System-defined fields, such as record number, status, or due date
- BP Pickers based on a query

Note

If the Record Status defined for any of the targeted business processes been inactivated, an error is displayed, and those business processes will not be updated.

The **Bulk Edit** option for multiple BP records is *not available* for the following BPs:

- Resource Booking BP
- Timesheet BP
- Single-record BP

Fields that are configured for auto-sequencing are not available for bulk edit because the values for these fields are system-generated.

You cannot use the **Bulk Edit** option for single, or multiple, BP records to update a field that has value uniqueness configured.

You can update a maximum of 200 records using Workflow update (**Workflow Actions** in the **Action Without Preview** window).

Only the Upper Form is modified during Workflow update (**Workflow Actions** in the **Action Without Preview** window).

The Workflow update (**Workflow Actions** in the **Action Without Preview** window) is not supported on tasks that are on the Initiation step.

When you send the record to the next step, the system performs validation for the required fields.

At the company level and project level, when you are acting on multiple tasks, you must have **Allow Bulk Edit** permission for each task.

For bulk update, the fields are from both Upper Form and Details forms (drawn from integration templates). Some business processes do not support integration. As a result, you cannot take multiple actions on these business processes because integration is used in multiple action.

Exporting BP Records Using Bulk Update From Business Process Log Node

If you have the **Allow Bulk Edit** permission, you can select one or more business process records from the **Business Process Log** grouping node and perform a bulk update on those selected records.

A bulk update allows you to export multiple business process records and modify each record distinctly in a Microsoft Excel file (.xlsx). For a detailed list of supported BPs, see [Business Processes Supported by the Bulk Update Export/Import Process](#).

When you use Bulk Create or Bulk Update, you start by exporting the BP design structure to a Microsoft Excel or CSV file and then populating the required fields. If you leave a Data Picker Data Element (DE) field blank that is configured to Auto Populate, the system completes the field when you run a Bulk Create; however, it does not complete the field when you run a Bulk Update. To reduce confusion and maintain consistency for both Bulk Create and Bulk Update, the system uses the Excel or CSV file to populate the Data Picker field if the field is excluded from the Integration Form for the BP design.

Note

Bulk Update is not currently supported for General Spends Classification of Cost BPs with Line item of CBS Code (both workflow and non-workflow) if breakdown rows exist in the referenced Schedule of Values (SOV).

Exclusions

For a business process selected in the **Logs** node, the following records are excluded in the right pane when you select **Bulk Update**, select **Export Data**, select **Selected Records**, and select **Main Form** in the toolbar in the right pane:

- Initiation step records
- Terminated records
- Initial draft records of non-workflow BPs as they are available from the **Business Process Log** node.
However, terminal step records are additionally excluded only when you select **Bulk Update**, select **Export Data**, select **Selected Records**, and select **Main Form and All Line Items**
- Records with attachments

Bulk Update Export Process

To export data using bulk update:

1. Switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select a business process (BP).
3. In the right pane, Ctrl+click to select multiple BPs you want to export and edit.
4. Depending on the type of business processes selected, select any of the following options from the toolbar:
 - To export only **Upper** form data from the selected records, select **Bulk Update**, select **Export Data**, select **Selected Records**, and select **Main Form**
 - To export **Upper** form and line item data from the selected records, select **Bulk Update**, select **Export Data**, select **Selected Records**, and select **Main Form and All Line Items**

Note

Terminal records (workflow or non-workflow) can be exported from the **Main Form**, regardless of whether the terminal status record has an **Action Form** or **View Form**. To export such terminal records, select **Bulk Update**, select **Export Data**, select **Selected Records**, and select **Main Form**.

5. Save the generated Excel file (.xlsx) file in a desired folder location. For more information, see [Microsoft Excel File Format for Bulk Update Export/Import Process](#).

By default, files of business processes (BPs) with only Main form data are named in the format <BP Name>_MainForm.xlsx (for example, *Warranty_MainForm.xlsx*).

By default, files for business processes (BPs) with Main form data and line item data are named in the format <BP Name>_MainForm_LineItems.xlsx (for example, *Warranty_MainForm_LineItems.xlsx*).

Updating BP Records in Excel for Bulk Update From Business Process Log Node

If you have the **Allow Bulk Edit** privilege, you can upload a batch of modified business process records using a Microsoft Excel file (.xlsx) from the **Business Process Log** grouping node.

A bulk update allows you to update and import multiple business process records that have been distinctly modified in a Microsoft Excel file (.xlsx). For a list of business processes supported by the Bulk Update menu options, see [Business Processes Supported by the Bulk Update Export/Import Process](#).

Note

- Bulk Import data relies on V1 REST services. Therefore the system displays an error in the **Import Error details** window.
- Bulk workflow actions follow REST V2 services.
- Email is not generated through Bulk Update when bulk workflow actions are taken for multiple records.
- Line items that are part of the input file are ignored if the record does not have those line items.
- Bulk Update is not currently supported for General Spends Classification of Cost BPs with Line item of CBS Code (both workflow and non-workflow) if breakdown rows exist in the referenced Schedule of Values (SOV).
- If provided, the BP Picker value must meet the configured query conditions. Otherwise, the system displays an Invalid value or multiple records found message.

Recommendation

To import BPs successfully, do not change the data formatting type in the *exported* file. For a detailed list of data elements that can and cannot be updated via Excel import, see [Supported Data Elements For Bulk Update in Excel Import](#).

Procedure

To update business process records through Bulk Update:

1. Modify the business process records in the Excel file.
See [Modifying the Excel File for Bulk Update](#).
2. Import the data in the Excel file.
See [Importing the Excel File for Bulk Update](#).
3. View the import history information of the bulk update process.
See [Viewing Bulk Update Import Data History Details](#).
4. View error details of business process records, if any, associated with the bulk update process.
See [Viewing Error Details of the Bulk Update Import Process](#).
5. Resolve the errors and re-import the business process records.
See [Reusing the Error File For Bulk Update Import Process](#)

Business Processes Supported by the Bulk Update Export/Import Process

If you have the **Allow Bulk Edit** permission, the toolbar of the business process you select in the **Logs** node displays the **Bulk Update** menu with the following three menu items:

- **Export Data**
- **Import Data**
- **Import History Details**

The Excel file generated by the Bulk Update export/import menu items displays the following worksheets for supported business processes listed below. For more information about each worksheet, see [Microsoft Excel File Format For Bulk Update Export/Import Process](#).

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Company-level Simple BPs (workflow and non-workflow)		Yes	Yes. For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	No	No	No
Shell-level Simple BPs (workflow and non-workflow)		Yes	Yes. For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	No	No	No

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Company-level *Line Item BPs, Generic Classification (workflow and non-workflow) *Excludes Vendor BPs		Yes	Yes For Line Item BPs with cost code data in the Upper form, the worksheet also displays a Cost Code field. For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes	No	No
Shell level Line Item BPs (workflow and non-workflow)		Yes	Yes For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes	No	No

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line items with CBS Code, Generic Classification , (workflow and non-workflow)		Yes	Yes For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes If the work package picker is included in the BP, the worksheet includes a Work Package field with a drop-down list of values. You can edit the line item. If the BPO or BPO Line Item picker is included in the BP, the worksheet includes the BPO and BPO Line Item picker as read-only fields.	Yes	No
Cost BPs, Line item with CBS Code, Budget Transfer Classification (workflow and non-workflow)		Yes	Yes For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes	Yes	No

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line item with CBS Code, Base Commit Classification (workflow and non-workflow)	General Spends SOV (with Individual Commit Line Items)	Yes	Yes For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action If you choose to export the Main form and line items, the worksheet also displays the following read-only fields by default: • currency picker • rate in project currency • rate in base currency • override rate	Yes	Yes Displays both active and inactive cost codes	No

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line item with CBS Code, Base Commit Classification (workflow and non-workflow)	Payment Applications SOV (with Individual Commit Line Items)	Yes	Yes For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action If you choose to export the Main form and line items, the worksheet also displays the following read-only fields by default: • currency picker • rate in project currency • rate in base currency • override rate	Yes	Yes Displays both active and inactive cost codes.	No

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line item with CBS Code, Change Commit Classification (workflow and non-workflow)	General Spends SOV	Yes	Yes For change commit records, the worksheet also displays a read-only Reference Commit field with values. For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes For in-flight records associated with the <i>same</i> contract, the worksheet also displays a Reference field with a list of all reference codes from the SOV sheet of the selected contract for that record. For multiple in-flight records that reference <i>different</i> contracts, the worksheet displays a Reference field with a list of all reference codes from the SOV sheet of the associated contract.	Yes	Yes The worksheet displays a list of all SOV values across all contracts.

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line item with CBS Code, Change Commit Classification (workflow and non-workflow)	Payment Applications SOV	Yes	Yes For change commit records, the worksheet also displays a read-only Reference Commit field with values. For workflow BPs, the data elements are displayed from the Integration tab. The following fields also display: • Workflow Name • Current Step Name • Workflow Action	Yes For in-flight records associated with the <i>same</i> contract, the worksheet also displays a Reference field with a list of all reference codes from the SOV sheet of the selected contract for that record. For multiple in-flight records that reference <i>different</i> contracts, the worksheet displays a Reference field with a list of all reference codes from the SOV sheet of the associated contract.	Yes	Yes The worksheet displays a list of all SOV values across all contracts.

Supported Business Processes	SOV Type	Instructions Worksheet	Main Form Worksheet	Line Items Worksheet	Codes and Descriptions Worksheet	SOV Line Items Worksheet
Cost BPs, Line item with CBS Code, General Spends Classification (workflow and non-workflow)**		Yes	Yes Also displays a read-only Reference Commit field. It will also include record data from terminal status records if the end form is an Action form. For workflow BPs, the data elements are displayed from the Integration tab. The following fields additionally display: • Workflow Name • Current Step Name • Workflow Action	Yes Displays CBS codes associated with the SOV referenced in all the exported line items.	Yes	Yes Displays all SOV line items across multiple contracts in the following fields: • refid (Label of field) • Ref. (label of uuu_sovlinum field) • CBS Code • Commit Short Description

** Bulk Update is not currently supported for General Spends Classification of Cost BPs with Line item of CBS Code (both workflow and non-workflow) if breakdown rows exist in the referenced Schedule of Values (SOV).

Business Processes Not Supported by Bulk Update Export/Import Process

The following business processes are not supported by the Bulk Update process:

- Text
- Line item with CMx Pickers
- Lease
- RFB
- Vendor(Company level lineitem)
- Cost BP (Lineitem with CBS and Fund code)
- Cost BP (Lineitem with CBS and WBS code)
- Cost BP (Lineitem with Fund code)
- Cost BP (Lineitem with Account code)

- Cost BP (Lineitem with Multiple codes)
- Cost BP (Commit at company level)
- Preventive Maintenance BPs which are of Line item type
- Line item to filter company business processes

Modifying the Excel File for Bulk Update

To prepare your file for an import, modify the business process records in the following tabs of the Microsoft Excel file (.xlsx. or .xls):

- Main Form tab
- Relevant Line Item tabs

Ensure the Microsoft Excel file (.xlsx. or .xls) adheres to the [Microsoft Excel File Format For Bulk Update Export/Import Process](#).

Main Form Worksheet

For Workflow BPs, modify the records in the **Main Form** tab as follows:

1. Select a record and modify the data.
2. In the **Workflow Action** field, select any of the following actions:
 - **Blank**: This is the default action selected for the current step in the workflow
 - **<Workflow Action Name>**: Select the next action to move the business process from the current step in the workflow. For example, select **Approve**, **Approve without Review**, or **Cancel**.

Note

- The list of actions available for you select vary with each workflow.
- Only assignees can perform a bulk update of your workflow actions provided you have **Bulk Edit** privilege.
- If records of different workflows are selected for bulk update, the **Workflow Action** field displays the actions available across all workflows.
- The **Assignment Policy** specified for a workflow is ignored for performing bulk workflow actions.

3. Save the Excel file.

Line Item Tab Worksheets

To modify line item records in the relevant Line Item tab:

1. Select a line item record, and modify the data.
2. In the **Action** field, select any of the following actions:
 - **Update**: Select this action if you modify field values for existing line items such as:
 - CBS Codes of inflight Base Commit or Change commit line items
 - CBS Codes (with SOV Reference picker) values of inflight General Spends line items. For workflow and non-workflow records, the cost sheet will reflect the updated amounts for the CBS code.

- Commit line item picker(**reference picker**) values of inflight Change Commit line items
- Ref commit picker values in Change commit line items
- System data elements for referenced unit cost contract in change commit (**SOV Type** as *Payment Applications*) business process line items: **uuu_quantity** and **Amount** (if not formula)
- Route Base Commit or Change Commit BP records to the next step in the workflow, or to the terminal step
- Work Package picker values in line items of workflow and non-workflow Generic Cost BPs having Line items with CBS Code
- CBS codes of inflight General Spends line item records

Otherwise, by default, the line item will not be updated when set to a *Blank* value.

- **Add:** Select this action to:
 - Add line items that have CBS codes for inflight Base Commit records
 - Add the following types of picker values to new line items in workflow and non-workflow Generic Cost BPs having Line items with CBS Code:
 - * Work Package picker values
 - * BPO picker values
 - * BPO Line Item picker values
- **Delete:** Select this action to:
 - Delete existing line items of inflight Base Commit records.
 - Delete the following types of picker values from new line items of workflow and non-workflow Generic Cost BPs having line items with CBS Code:
 - * Work Package picker values
 - * BPO picker values
 - * BPO Line Item picker values

When you delete a line item, data elements that are set to receive values from line items in the **Main Form** tab are recalculated, any linked records associated with the deleted line item are removed from the **Main Form Linked Records** tab, attachments associated with the deleted line item are removed, and the audit log is correspondingly updated.

3. Save the Excel file.

When BP records and line items that have auto-populate data elements defined from pickers (all data pickers, BP picker) are updated through Excel update, the auto-populate data elements from the picker are *not* updated when the picker value is not included.

① Note

Auto-population is also not triggered if the picker element is in the Main form of the record, when the Excel update includes the same value for the picker.

Additionally, when a picker (destination picker) in a detail form is designed to be auto-populated from another picker (source picker) from the **Upper** form, the system auto-populates

the data elements from the former picker (destination picker) when a line item is created, only if a picker value (from the source picker) exists in the **Upper** form.

Importing the Excel File for Bulk Update

After [Modifying the Excel File for Bulk Update](#), import the data using Bulk Update as follows:

1. Switch to **User** mode.
2. In the left Navigator, select **Logs**, and select a Business Process (BP).
For example, select **Logs** and select **Change Orders**.
3. From the toolbar, select **Bulk Update**, and select **Import Data**.
4. In the **Upload Microsoft Excel File** dialog box, navigate to the Excel file (.XLSX), and select **Upload**.
5. Review the status of the imported data in the email notification you receive.
 - If the import process is **Completed Successfully**, you will receive a success message.
 - If the import process is **Completed with Errors**, check the attached error file containing a list of erroneous records.
Or
 - Select **Bulk Update**, and select **Import Data History Details** to check for error details or update failures of records or line item updates if any.
6. Correct the errors identified in the error file, and reuse the error file to re-import the data. See [Reusing the Error File For Bulk Update Import Process](#).

Note

- Attachments updates are not supported in the Excel import.
- A maximum of 50,000 records, including the column headers can be imported per Excel file.
- Resolve **Upper** form errors before resolving any line item errors.
- Required fields must be entered in the **Main Form** tab of the Microsoft Excel file prior to a bulk edit import process.
- Line items that do not exist will be ignored by the system during bulk import.
- All post-completion actions for a record are performed for workflow actions through bulk update.
- If you modify the design in the **Business Process Integration** form for a business process that is already loaded in the **BP Log** node in **User** mode, you must reload the **Business Process Log** node to ensure the most recent changes in the design are reflected.

Supported Data Elements For Bulk Update in Excel Import

The following are lists of data elements that are supported and not supported by the Bulk Update import process.

Supported Custom Data Elements

The following type of custom data elements that can be updated via Excel Import:

- Currency Data Elements
- Decimal Amount
- Integer Amount
- All types of pull downs and radio buttons (integer and string)
- Text, Long text, multi select type data elements
- BP pickers
- CBS picker
- All types of Data Pickers
- Dynamic data set elements (Including behavior elements)
- Date Pickers
- Date-only pickers
- Activity Picker
- Hyperlink
- BP URL

Not Supported Data Elements

The following data elements cannot be updated via Excel Import:

- Record Number
- Line No
- Any data element whose integration is set as Output only
- Rich text data elements
- Linked data elements
- Standard elements
- Any uu elements which currently cannot be updated using RestV1 services
- BP Creators, Lineitem Creators
- Image pickers
- Line item status
- Cost Line item type
- Tab Name
- CMx Pickers
- Fund pickers
- Account code pickers
- WBS Picker
- OBS picker
- Currency Pickers

Viewing Bulk Update Import Data History Details

If you have the **Allow Bulk Edit** permission, you can view the import data history details for the files that you imported.

To view the import details history:

1. Switch to **User** mode.
2. In the left Navigator, select **Logs**, and select **Business Processes**.
3. In the right pane, select **Bulk Update**, and select **Import Data History Details**.
4. Review the following information in the imported Excel file:
 - **Input File**: The name of the Microsoft Excel file (.xlsx) used for import.
 - **Upload Date**: The date on which the file was imported into the application.
 - **Start Date**: The start date and time of the import process.
 - **Finish Date**: The end date and time of the import process.
 - **Job Status**: Displays the job status of each imported file as any of the following:
 - **Not Started**: Indicates the import is yet to commence.
 - **Preempted**: If a job is not picked up by the system for some reason, the **Job Status** remains **Not Started**. After a period of time, the status changes to **Preempted**. When you select the **Job Status** field on the **Import Data History Details** page, the system displays a message similar to: The system will continue the import process of the row data provided in the input file '<filename.xlsx>'. Do you want to continue? To continue, select **Yes**. The status should update to **In Progress**.
 - **In Progress**: Indicates the import job is in process.
 - **Completed Successfully**: Indicates all records and line item data have been successfully updated.
 - **Completed with Errors**: Indicates records were partially updated or failed to update at least one record. See [Viewing Error Details of the Bulk Update Import Process](#).
 - **Aborted**: Indicates the job could not progress due to system issues or server failures.
 - **Error File**: Displays the name of the file containing the list of erroneous records. See [Error File Format of Bulk Update Import Process](#).
 - **Records Processed**: The sum total of the BP records in the **Main Form** worksheet and the Line Item worksheets, if any, in the Excel file.

Viewing Error Details of the Bulk Update Import Process

The **Import Data History Details** window displays a log of all the files imported, and their outcomes for a business process.

If the import process is successful, the **Job Status** indicates *Completed Successfully*.

If the import process is *Completed with Errors*, you can either download the input file or the error file to correct the data and re-import.

If the import process is *Preempted*, you can continue the import process by selecting the **Job Status** field and selecting **Yes**.

If the import process is *Aborted*, you can continue importing the remaining data.

 Note

If you have the **Allow Bulk Edit** permission, you can view the import data history details for the files you imported.

To view the outcome of the import process:

1. Switch to **User** mode.
2. In the left Navigator, select **Logs**, and select a business process (BP). For example, select **Logs**, and select **Change Orders**.
3. In the right pane, select **Bulk Update**, select **Import Data History Details**.
4. If the import process is **Completed with Errors**, select that row to perform any of the following actions:
 - Download the *input file* using any of the following options:
 - Select the **gear menu** () of the row, and select **Download Input File**.
 - From the toolbar, select **Download** () , and select **Input File**.

Correct the data in the input file and re-import as outlined in [Updating BP Records in Excel for Bulk Update From Business Process Log Node](#).
 - Download the *error file* using any of the following options:
 - Select the **gear menu** () of the row, and select **Download Error File**.
 - From the toolbar, select **Download** () , and select **Error File**.

Correct the data in the error file to re-import as outlined in [Reusing the Error File For Bulk Update Import Process](#).
 - Select **View Error Details** () to review a list of erroneous records in the **Import Error Details of <filename>** window.
5. If the import process is **Aborted**, select **Re-import** in the **Job Status** field of the import job to continue importing the remaining records.
 - Select  **Refresh** to refresh the **Import Data History Details** window.
 - Select  to open the **Search** window.
 - Select  to search and locate a specific input file in the **Import Data History Details** window.
 - Select  to print the list of entries displayed in the **Import Data History Details** window as PDF, or export and save in any of the following file formats: .html, .csv, or .xlsx.

Reusing the Error File For Bulk Update Import Process

If the bulk update import process is **Completed with Errors**, an error file (XLSX) is generated with a list of erroneous records identified by the import process. You can resolve these errors and reuse the error file to re-import the records.

Note

You should have **Allow Bulk Edit** permission, to import or re-import BP records using a Microsoft Excel file (.xlsx) from the **Business Process Log** grouping node.

The generated error file adheres to [Error File Format of Bulk Update Import Process](#) by default.

To reuse the error file for re-import:

1. In the **Main Form** tab, resolve the errors identified for each BP record.
2. In the relevant **Line Item** tabs, if any, resolve errors corresponding to the BP record in the **Main Form** tab (Step 1).
3. In the **Action** field, select the **Update** option for each record. Otherwise, by default, the line item will not be updated when set to a **Blank** value.
4. After resolving all errors, delete **Column A** in the **Main Form** tab and relevant **Line Item** tabs to clear all identified errors.
5. Save the modified error file to prepare for import.
6. Import the error file as described in [Updating BP Records in Excel for Bulk Update From Business Process Log Node](#).

Auditing Business Processes (Audit Log)

The business process (BP) **Audit Log** tab lists the actions that have been taken on a specific BP record. The following table describes the events that are, or are not, captured in the **Audit Log** tab.

Note

Unless noted otherwise, the following information applies to both workflow and non-workflow BPs.

The following events are captured in the BP Record Audit Log:

- Workflow - <Action> (via Bulk Update)
- Workflow steps
When and to whom (To and Cc) each step was sent (workflow BPs)
- Record creation date (non-workflow BPs)
- General comments, including changes to the Hidden Comment checkbox and an entry that indicates whether a user deleted a comment
- File comments

- Linked Mailbox
- Linked records
- Add or manage Document-type BP folders: new, remove, rename, move
- Add, remove, open, view, or download file attachments
- Decline task
- Transfer ownership
- Add, modify, or delete a line item: detail or summary
- File attachments to existing line items
- Copied (cc) user views the record
- Updates performed on any part of the BP using the Reverse Auto-Population feature
- Update user web service calls
When user(s) are added or removed using REST API services

- Bulk Update Import Data

- Record print
The entries include:

- Printing from BP record
- Single & Bulk Printing from the BP log
- Single & Bulk Printing from the Task log

The log entries are:

- Event - Print, and then select <Print Type>
- Action - Run Print
- User Name - User who ran the print

The print type can be *PDF*, *HTML*, or *Custom Print*. For *Custom Print*, the format in Event is Print, select Custom, and then select <Template : Format>

- Disabled and Clear
The Audit Log captures the number of clearing and disabling of data fields, based on the Disabled and Clear behavior set option in a DDS.

The following events that occur on the *Unifier Mobile App* are captured in the BP Record Audit Log:

- Record creation
- Record update
- Line Item addition
- Line Item update

The following events are *not* captured in the BP Record Audit Log:

- Actions undertaken at the creation step
- Accept task
- Undo accept task
- Add assignees or copy users between steps

Audit Log of Task Reassignments

When a Company Administrator reassigns a task, the BP Record Audit Log displays the following information:

- **Date:** Date and time stamp of the task reassignment
- **Event:** Task Reassignment
- **Action:** Task has been reassigned
- **Field:** Assignee
- **Old Value:** The user name of the previous assignee
- **New Value:** The user name of the new assignee
- **User Name:** The name of the administrator who reassigned the task

Printing and Distributing BP Forms

At times, you may need to print copies of a Business Process form, such as an invoice or a purchase order. You can save a copy of the form as a PDF file and print or email the file, print an HTML view, or print from a Word file if a custom print layout has been created for the form.

Note

- You can print a form that is in view mode or in edit mode.
- The print output is based on your permissions to certain data in the system. If you cannot see the hidden comments in a particular step within a Workflow, the hidden details will not be printed and will not be visible in the Custom Print.

Print a BP Form in Different Formats

When printing business process forms from PDF or HTML format, you can choose to include not only the information on the form itself, but also associated information such as general comments and information about file attachments. The print options are:

- Upper form data
- Workflow progress information (for business processes with a workflow)
- Line item list
- Line item data
- General comments made to the record
- Information about file attachments on the record or line items
- Comments made to file attachments

Note

Some fonts may not be supported. Ensure that you adjust your language settings correctly (go to region format tab and review changing language topics in the Help) in cases of printing a BP form or attaching a pdf version of a BP form to an email when a workflow is routed.

If custom print layouts have been created for the business process, the form will print according to the layout that you select.

Note

For PDF and HTML layouts, the ability to print hidden comments will respect permissions: if you can see hidden comments, you can print them. In custom print, hidden comments are not printed.

To preview and print a business process form:

Note

Workflow Progress section in Print options is driven by permissions. If you can see workflow progress, you can print the workflow progress.

1. Open the BP record that you want to print.
2. From the **More Actions** menu, select **Print**, and then choose one of the following:
 - **HTML** to view the form in the browser which can then be printed.
 - **PDF** to open the form in Adobe Acrobat Reader, which can be saved or emailed as a PDF file, or printed process, you are asked to save the changes to the form.
 - **Custom** to select the Oracle Analytics Server, Microsoft Word, and PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).

Note

Even if you have not made any edits, you may be asked to save changes. This can occur if the form includes fields that are auto-populated or automatically updated, as these automatic functions are considered to be changes.

The Print Options window opens.

This window displays the business process record information that can be printed; see the table below. Select the checkboxes for the information that you want to print. Only those options that are applicable to that business process design will appear on the Print Options window. For example, line items options are available for business process types that support line items, the Task Details option appears only for workflow business processes.

3. To select all the checkboxes, click **Select All**. To deselect all, clear **Select All**.

Selecting or deselecting this checkbox will have no effect on any Workflow Progress options you choose.

4. Select **Print**. The preview form opens in an HTML window, from which you can print. If you chose PDF, the PDF file may automatically download to your system based on your browser.

Print option	What it prints
Upper Form	Selected by default. This prints the information entered on the upper form.
Workflow Progress	Prints a log of the steps in a workflow, showing the step name, the assignee(s) on the step, the action that was taken on the step and the completion date. You have additional print options: All Steps will include all the steps in the workflow, whether or not users visited them. The steps will be listed in order according to the workflow setup. All assignees on each step will be listed in the log, whether or not they acted on the step. Visited Steps will include only those steps that have been visited by users. Only the assignees who acted on the steps will be listed. You can display the steps sorted by the completion date or the step name, in ascending or descending order.
Line Item List	Selected by default. This prints line information as it appears on the business process form itself. This is applicable for business processes that support line items.  Note The number of line items determines the time taken to generate the pdf.
General Comments	The general comment text and create details are printed.
Record Attachments	File attachments to the record are listed alphabetically by file name and include the file title, issue date, revision number, and file size. This is not applicable for document type business processes, which list file attachments in the line item section.
Record Attachments option, Comments suboption	Prints comments associated with file attachments to the record. Record Attachments must also be selected to select this option.
Detail Form	Line item data is displayed in order by line item and grouped by tab if the business process has multiple line item tabs. This prints all line item data elements present on the detail form and reflects the layout of the detail form (for example, if the detail form is two-column, the print data is displayed in two columns).
Detail Form option, Attachments suboption	Prints information about attachments to each line item. Detail Form must also be selected to select this option.

Print option	What it prints
Detail Form option, Attachments suboption, Comments suboption	Prints comments associated with file attachments to a line item. Detail Form and Attachments must also be selected to select this option.

Oracle Analytics Server custom print in I Step BP records

In I step BP records, and where the record number does not exist for a record, if you print the BP record using an Oracle Analytics Server custom print template, the print output will be blank.

Note

You cannot print a Portal Enabled BP record in the Creation step.

Custom Format Print Options for BPs

Custom Format Print Window for a non-Workflow BP

The Custom Format Print window, for a *non-Workflow* BP, has two sections:

- Select a custom print template
- Select a template and format to print

Both sections facilitate custom print template and format selections.

Select a custom print template

Lists all the custom print templates existing for the non-workflow BP, including the custom print templates created in the **Custom Templates** functional node and the custom print templates created in the configuration of the non-workflow BP. For example, the list may include Oracle Analytics Server, Word, and PDF custom print templates.

If there are multiple custom print templates for the same non-workflow BP, all the published templates are listed in this section.

The "Select a template and format to print" is populated by the selection made in the "Select a custom print template" section.

Select a template and format to print

- If you select an Oracle Analytics Server custom print, you can select the desired template and format from the drop-down lists.
- Template drop-down displays all the available templates for the selected format.
- Format drop-down displays the available formats for the selected template.
- If the custom print template was created using PDF or Word, the "Select a template and format to print" is disabled.

Default template and format (non-Workflow)

- If an Oracle Analytics Server print template is selected, the default values in the drop-down lists are set based on the default in the custom print template.

- When an Oracle Analytics Server print template is selected in the "Select a custom print template" section, the template and format are populated based on the default value selected at the time of designing the print template.

Custom Format Print Window for a Workflow BP

If there is only one custom print template, and it happens to be an Oracle Analytics Server template, the print template is selected in the "Select a custom print template" section, and the template and format are populated based on the default value selected at the time of designing the print template.

The Custom Format Print window has three sections for a Workflow BP.

- Select a custom print template
- Select a template and format to print
- Select options for Workflow Progress

By default, when the Custom Format Print window is launched, all three sections are enabled and the first template is selected. The options seen in the subsequent sections are based on the selection made in the "Select a custom print template" section.

You can select options for workflow progress in the "Select options for Workflow Progress" section of the Custom Format Print window for PDF and Word templates, which are created at the time of configuring the non-workflow BP.

If the selected custom print template is of an Oracle Analytics Server type, the "Select options for Workflow Progress" section is disabled. This is because the custom print template designers can always use the system provided Workflow views to include workflow-related information in the template.

Default template and format (Workflow)

- When an Oracle Analytics Server print template is selected in the "Select a custom print template" section, the "Select a template and format to print" section is populated based on the default value selected at the time of designing the print template.
- If there is only one custom print template and it is an Oracle Analytics Server template, the print template is selected in the "Select a custom print template" section, and the template and format are populated based on the default value selected at the time of designing the print template.

Note

If your custom print is a draft business process record, the modified record values will not be displayed in the Output of the Oracle Analytics Server print.

Custom Format Print Window for Shells

In addition to editing shells that you have permissions for, you can view all Custom Print Templates and define them at the shell level. After you navigate to your system logs, you must select a BP. After you choose an item from the list of available items in the BP, select **Settings**, and select **Print - Custom**.

When you select **Print - Custom**, a new window is displayed where you can choose a Custom Print Template from the list. Upon choosing one of the available Custom Print Templates, select **Print**.

Note

If you copy a shell that has an existing setup and the **BPSetup** module is selected, the Custom Print Templates are also copied.

Print Using a Custom Layout

Custom printing can be used with templates created in Oracle Analytics Server, Microsoft Word, and PDF format. Depending on the template used for custom print, you can print the upper form, the current workflow step, comments, and attachments of the record. The template may also allow printing of specific line items in their tabs. The printed output will list the name of the tab with the line items following on separate lines.

To print a BP form with a custom print layout:

1. Open the business process record that you want to print.
2. From the **More Actions** menu, select **Print**, and then choose **Custom** to select the Oracle Analytics Server, Microsoft Word, or PDF custom print templates from the same place as the current custom prints (Custom Format Print selection window).
If you are editing the business process, you are asked to save the changes to the form.

Note

Even if you have not made any edits, you may be asked to save changes. This can occur if the form includes fields that are auto-populated or automatically updated, as these automatic functions are considered to be changes.

3. Select a template and format.
4. Select Workflow progress options.
For details on non-Workflow progress options, see *Printing a Configurable Manager Form*.

Workflow progress prints a log of the steps in a workflow, showing the:

Step name

Assignee: on the step

Company: the assignee company

Status: of the step

Action: on the step

You have additional print options:

- All Steps will include all the steps in the workflow, whether or not users visited them. The steps will be listed in order according to the workflow setup. All assignees on each step will be listed in the log, whether or not they acted on the step.
- Visited Steps will include only those steps that have been visited by users. Only the assignees who acted on the steps will be listed. You can print the selected steps (including the current workflow step) sorted by completion date or step name, in ascending or descending order.

5. Select **Print**. The File Download window opens.
6. Choose to Open or Save the file.

7. Print the file.

Send a PDF Copy of a BP Form via Mailbox

You can create and send a PDF copy of a business process record directly from your mailbox.

To send a PDF copy of a BP form using Mailbox:

1. Open your inbox.
2. Double-click a mail item that is linked to the business process record you want to send. If it is linked to a business process record, you will see a caption under the subject line that reads, **This mail and any future replies are linked to business process records.**
3. Select the **business process records** link to open the Linked Business Process Records window.
4. Double-click a record to open it.
5. From the **More Actions** menu, select **Email as Attachment**. The message window will open with a PDF file of the business process record attached below the subject line.
6. Complete the message and send.

Auto-Populating BP Data Picker on BP Auto-Creation

When a source business process (BP) record has a BP creator that auto-creates another BP record that has a BP Data Picker referencing the source BP record, the BP Data Picker values will be auto-populated referencing the source BP record, even when the source BP record is in a different shell.

The auto-creation of the destination BP records (from source BP record) can be either of the type:

- Record to Record or
- Line-item to Record

Both types support the BP Data Picker in destination record that will be auto-populated.

Note

- The system ignores the queries that have been defined for the BP Data Picker.
- Do not use data pickers in a circular manner. For example, if you configure a BP to use three data pickers--DP1, DP2, DP3--do not repeat use of DP1 when you configure auto-population or reverse-auto-population.
- During autocreation, if the value in a BP picker does not meet the filtering conditions that have been configured for the created BP, the value of the BP picker is not copied and is left blank. Additionally, in the Step Form of the created BP, any data elements that are configured to auto-populate from the picker are cleared.

The source BP record in a Project/Shell can auto-create another BP record in the same Project/Shell

As a result, when the source BP (BP A) record and the auto-created BP (BP B) record reside in the same Project/Shell, the BP Data Picker in the auto-created BP (BP B) record is auto-populated with reference to the source BP (BP A) record, similar to all BP Pickers.

The source BP record in a Project/Shell can auto-create another BP record in different Projects/Shells

As a result, when the source BP (BP A) record and the auto-created BP (BP B) record reside in different Projects/Shells, the BP Data Picker in the auto-created BP (BP B) record is auto-populated with reference to the source BP (BP A) record.

Auto-Populating BP Line Item Data Picker on BP Auto-Creation

When a record is auto-created from a line item:

- If the created record has a BP Data Picker, it will be populated with a reference to the source record. If the upper form also has the BP Line Item Data Picker, it will be populated with a reference back to the line item on the source record.
- If the created record has a BP Data Picker on the detail form, the line items copied from the source will have the picker populated with a reference to the source record. If the detail line also has BP Line Item Data Picker, it will be updated with a reference to the detail line. You can auto-populate and reverse auto-populate back to the source upper or detail form.
- BP Line Item Data Picker displays the line item based on query conditions that are evaluated similar to Data Picker in the auto-created record.

When a record is auto-created from another record upper form:

- If the created record has a BP Data Picker, it is populated with a reference to the source record and any Line Item Data Picker on record is empty.
- If the created record has a BP Data Picker on the detail form, the Line Items copied from the source will have the picker populated with a reference to the source record. If the detail line also has BP Line Item Data Picker, it will be updated with a reference to the detail line. The design can then auto-populate and reverse auto-populate back to the source upper or detail form.
- BP Line Item Data Picker displays the Line Item based on query conditions that are evaluated similar to Data Picker in the auto-created record.

When a line item is auto-created from source BP line item:

- If the source record has a BP Line Item Data Picker, it is populated with a reference to the auto-created line item, provided BP Data pickers refer to the source record.

Auto-population and Reverse Auto-Population of data elements, based on BP Line Item Data Picker, is supported. A Reverse Auto-Population can be done from both the Upper and Detail forms.

When you select a Line Item Data Picker without selecting a BP Data Picker, the system displays a picker window without line items.

When you change the selection in a BP Data picker, if there is already a line item selected, the system displays the message: You cannot change a BP Data picker that has line item(s) associated with it.

Upon copying a record, the selected values for a BP Line Item Data Picker will be copied from the source record.

Upon auto-creation of the record or line item, the value for the BP Line Item Data Picker (on the destination record or line item) is retained from the source. The value of the BP Data Picker is also retained on the destination from the source.

A data element that is based on a Line Item Data Picker data definition is supported as part of HTML or PDF prints. The Display Element value is printed as part of HTML or PDF prints.

A Line Item Data Picker element is available as part of Custom Print schema so that you can use it on Custom print XML file. At runtime the Display Element value will be printed.

Auto-Populating Record Due Date on BP Workflow Auto-Creation

To ensure auto-created destination BP workflow records display a record due date at run-time, you can define either the **Duration Element** or **Due Date Element** during auto-creation setup. This applies to source business process (BP) workflow records that have a **BP Creator Element** to auto-create another BP record.

Except for S-step, the auto-created destination BP records (from source BP record) can be either:

- Record to Record or
- Line-item to Record

The **Due Date Element** field displays those date picker elements that have been specified in the upper forms or detail forms.

Depending on the entries made in the uDesigner forms, Auto-creation Setup, Unifier Admin, and the source record in User mode, the **Due Date** field in the auto-created destination BP will be populated as described below.

Due Date Behavior in Auto-Creation Settings

uDesigner Auto-Creation Setup (Due Date or Duration Element)	Duration Value in Admin Mode (Auto-Creation Setup)	Due Date Behavior
Neither Due Date nor Duration Element is specified	Not defined	The system assigns a Due Date based on Workflow Settings of the auto-created BP record.
Neither Due Date nor Duration Element is specified	Defined	The Due Date is calculated based on the defined Duration days in Admin mode.
Due Date Element is specified	Defined	If the source record includes a Date Element, the auto-created BP record inherits the source record's Due Date.
Due Date Element is specified	Defined	If the source record does not include a Date Element, the Due Date is calculated based on the Duration value in Admin mode.
Duration Element is specified	Not defined	If the source record does not include a Date Element, the Due Date is calculated based on Workflow Settings of the auto-created BP record.

Updates on Document Attributes for Business Processes

When a document gets published to the Document Manager (DM), the document attributes get updated by matching DEs from the BP record. If the matching DEs on the source record get updated during the life of the record, the corresponding DM attributes can get updated, if it has been configured in uDesigner to do so.

If the **Update attributes for already published documents** option is enabled on a BP Upper Form at a given step, the attributes of all record and line item published attachments will be updated according to the matching DEs between the record and the DM Attribute Form. Also:

If the **Update attributes for already published documents** option is enabled at multiple steps, the DM attributes gets updated at each such step.

For a Workflow type BP:

If the **Update attributes for already published documents** option is enabled on a current step, the DM attributes get updated as the record is routed to next step.

If the user causing the record to move to next step does not have **Modify Properties** permission on a document, the DM attributes get updated, if the **Update attributes for already published documents** option is enabled.

If the end step has an edit form, the DM attributes get updated at each save of the record, if the **Update attributes for already published documents** option is enabled.

For a non-Workflow type BP:

The attributes get updated when the record is **Finish Edited**, if the **Update attributes for already published documents** option is enabled.

If the user who edits the record does not have **Modify Properties** permission on a document, the DM attributes get updated, if the **Update attributes for already published documents** option is enabled.

For both Workflow and non-Workflow type BPs:

If the attribute on DM form is set to **Formula** or **Auto-populate with a Constant Value**, the attributes get updated from the BP if there are matching DEs with the BP form; however, when you manually open the **Properties**, and select **OK**, the **Formula** or **Auto-populate with a Constant Value** on the DE gets recalculated and repopulated.

If a BP record is created by attaching file(s) from the DM directly, and the **Update attributes for already published documents** option is enabled, the files are treated as a published document(s) and their attributes get updated as the record progresses in workflow, or the record is **Finish Edited**.

Note

If the **Update attributes for already published documents** option is *not enabled*, there will be no update of DM attributes as a record progresses in workflow, or the record is **Finish Edited**.

Business Processes with Special Behaviors

Some business processes have special features and behaviors that make them operate differently from most business processes in the system. These business processes and their features are described in this section.

For information about internationalization and CSV files, refer to the *Unifier General Administration Guide*.

Schedule of Values (SOV) Sheets and Business Processes

This section discusses how to manage BP records, including searching for existing BPs, transferring ownership, viewing BP properties, and viewing Schedule of Values (SOV) or funding information from within a Cost type BP.

① Note

If you configure specific Data Elements (DEs) to auto-populate from a Base Commit BP, do not configure the same auto-population using CSV, Microsoft Excel, or REST API in an SOV sheet for General Spends, Payment Applications, or Summary Payment Applications.

View an SOV sheet from the BP form

Commit (contract) or spend (invoice) BPs can be set up to automatically create a Schedule of Values (SOV) sheet. These transactions can be easily accessed directly from the BP form. The BP form remains active.

If the BP has been set up to automatically create an SOV sheet, an SOV button appears at the top of the BP form after the SOV sheet has been created.

For more information about Schedule of Values (SOV) sheets, see Schedules of Values (SOV).

To view the SOV sheet created from the Cost type BP:

1. Wait for the BP to reach terminal status.
2. Open the business process, and select **More Actions**.
3. Select **SOV** to open the SOV sheet that corresponds to the transaction.
4. Close the SOV sheet to return to the BP form.

Create SOV breakdowns

You can add SOV breakdowns from this view. Breakdowns are only in use in the SOV sheet, not the cost sheet. If another transaction exists for the CBS code, you will not be able to do a breakdown.

To add CBS code breakdowns that can be used to create invoices:

1. Open the business process, and select **More Actions**.
2. Select **SOV** to open the SOV sheet that corresponds to the transaction.
3. Select a listed CBS code from the sheet. The CBS Detail window opens.
4. Go to the **Breakdown** tab in the right pane.

For more information about adding CBS breakdowns, see Adding Breakdowns to SOV sheet by Importing.

View, or edit, fund transaction details from the BP form

Commit (contract) or spend (invoice) BPs can be set up to consume or appropriate funds in the project/shell funding sheet or commitment funding sheet. These transactions can be easily accessed directly from the BP form.

If the BP form has been set up for funding (and is in the appropriate step, and you have funding permissions), a Funding button will appear at the top of the BP form. This lets you perform a fund assignment while routing and approving a BP, such as a payment. Access to this button and fund information is dependent upon your Fund Manager permissions.

For more information, see About Business Processes Enabled for Commitment Funding and About business processes enabled for funding.

Composite view of Base Commits and Change Commits

You can view a composite view of both Base Commits and Change commits. The SOV sheet is used as a composite view, and the SOV sheet will be the composite of the PO and all added lines from Change commits.

To support the line-item mode, the SOV sheet has a column called **Ref** that represents line item numbers.

There are other fixed columns, and the columns will be dependent on the mode.

- **Line item mode:**
 - The **Ref** column represents the line item numbers for both Commits and Change Commits.
 - The **Description** column shows the short description of the line item from the Commit.
- **CBS mode:**
 - The **Ref** column does not have any data. The breakdown items do not include a ref number. The column width is four characters.

Note

For Base Commits Business Processes (BPs) with SOV type of "Summary Payment Applications," a special behavior line item has been provided to allow you to add further cost distribution details to the line items. This option is accessible in the Standard detail tab of the properties window and contains two options: Lump Sum and Cost Unit. Select Add and select the appropriate option.

To view funding details from the Cost type BP:

1. Wait for the BP to reach terminal status.
2. Open the business process, and select **More Actions**.
3. Select **Funding** to open the Funding sheet that corresponds to the transaction.
4. Review the details of the transaction.

Note

This is the same window that you would see if you selected the link corresponding to this transaction on the project/shell funding sheet.

To reassign funding, select **Fund Assignment**. For more information, see About business processes enabled for funding.

Payment Application Business Processes

A Payment Application BP lets you track payment information using the standard payment application method, such as tracking retainage, stored materials, past payments, and so on. Each Payment Application BP record references a specific Base Commits record. The line

items on the Payment Application BP will reflect the line items on the Base commits as well as any associated Change Commits.

Note

Changes to a Payment Application BP design while records are in progress (in-flight) can cause data issues in pending records.

A project/shell can include multiple Base Commit BPs with associated Payment Applications and SOVs. When a shell is created from a template containing multiple Base Commit BPs—each generating different Payment Application SOVs—as well as multiple Change Commits that update those SOVs and multiple Payment Application BPs, all of these BPs and their corresponding SOV structures are automatically included in the newly created shell.

When multiple Base Commit BPs are included in a project/shell, you can:

- Create multiple Base Commit records that create different payment application SOVs
- Create multiple Change Commit records that update different payment application SOVs
- Create multiple payment application records that update different payment application SOVs
- Create multiple payment application SOV structures
- View new SOV nodes that display the log of the Base Commit records that creates the Payment Application SOV structure

Note

If the sum of costed lines ranges between a -0.01 to 0.01 difference from the originating line item values, the system does not generate an error or prevent the BP record from moving to the next step.

For more information, watch the following video:

[Using Multiple Payments in a Single Shell](#)

Payment Application BPs, and associated Base Commits and Change Commits, are designed in uDesigner. For more information, refer to the *Unifier uDesigner User Guide*. Your Company Administrator can include or remove SOV restrictions when setting up a Base Commit BP or a negative Change Commit (negative change order) BP.

Payment Application Tasks and Performing Multiple Actions-Bulk Action

The **Tasks** node of the Payment Application lets you perform bulk action on Payment Application records, when the system detects multiple payments, or negative change orders.

When you select multiple Payment Application BP records (or Summary Payment Application BP records) and perform a workflow action (bulk action), the system (based on the "remove SOV restrictions" selection on the Commit BP) updates all the records that you selected, and:

- If you select the **Action with Preview** option (in the left Navigator, select **Tasks**, and then select **Actions**), the system displays messages related to payment applications and negative change commits, when applicable.

- If you select the **Action without Preview** option (in the left Navigator, select **Tasks**, and then select **Actions**), the system does not display messages related to payment applications and negative change commits, when applicable.

For non-Workflow BP records, when the "Status" is updated through Bulk Edit, the system does not display messages related to payment applications and negative change commits.

When the BP records are progressed from email notifications (when you perform a workflow action through email notifications), the system does not display messages related to payment applications and negative change commits.

Payment Application BP and Multiple Payments

If the **Remove SOV restrictions** option *is selected* in the **Business Process Setup** window (**General** tab), multiple Payment Application type BPs can be configured for a Project/Shell and multiple Payment Application BP records can be routed, at any time, for a commit.

Note

You can go to the Base Commit Setup section for setting information.

Example

First, the user creates the contract record CON-001 and sends the contract to a step that creates Schedule of Values.

Then, the user creates a Payment Application BP record PA-001 and sends the BP record to the next step for approval. At this point the BP record is in progress (in-flight).

Then, the user creates a second Payment Application BP record PA-002 and sends the BP record to the next step for approval.

Then, the user tries to create a second Payment Application BP record for the same Contract CON-001.

An Alerts icon () is displayed, and when the user selects the icon, information about pending payments and negative change orders is presented.

The system does not block the creation of the second Payment Application BP record PA-002 but informs the user that a Payment Application BP record is pending on the contract.

If the **Remove SOV restrictions** option *is deselected* in the **Business Process Setup** window (**General** tab), only one Payment Application type BP can be configured for a Project/Shell and only one Payment Application BP record can be routed, at any time, for a commit.

After a Payment Application has reached the terminal step, if you open an in progress (in-flight) BP record, the system notifies you that the SOV has been refreshed.

After the system refreshes, the system retrieves the latest information, from the SOV. At run time, whenever you open a draft, or an in-flight, payment record and accept the SOV merge alert the data element (which has the "Do not get latest SOV values when merging" option enabled) will not get refreshed with the latest updated values from SOV.

Before SOV merge, payment grid for data element 'Unit price/gallon' which has 'Do not get latest SOV values when merging' checked.

All the fields populated from the SOV will be updated based on the latest SOV.

All formula fields, in the Payment Application Detail Form, defined using fields from SOV, will be re-evaluated.

Example

There are two Payment Applications P1 and P2. P1 has reached the terminal step. P2 is in progress (in-flight).

User has not yet accepted the task. Upon accepting the task, the system will refresh the SOV and inform user with an alert.

When the user changes to Payment Application BP, an alert icon appears on the window.

Select the Alerts icon () to see any pending payments, and negative change orders, associated with the selected reference commit. The Alerts icon is available for both Workflow and non-Workflow BPs and might appear after a selection for the contract record is made.

User has accepted the task, and SOV has changed because of another payment. When user open this record, system will perform an SOV merge, and inform user with an alert.

If the user has left P2 open, and P1 has reached terminal status and P1 has impacted the SOV used in P2, when the record P2 is sent to the next step, system will refresh the SOV and throw an alert to the user stating that the SOV has changed.

Payment Application BP and Negative Change Commits

If the **Remove SOV restrictions** option *is selected* in the **Business Process Setup** window of the Base Commit (**General** tab), multiple Payment Application type BPs and Negative Change Commits can be configured for a Project/Shell.

At the time of creating the Payment Application record, upon selecting the reference commit, the system will check for any existing negative change orders for the selected reference commit. The system displays a message if there any negative change orders.

After the record has been created, subsequently, when you open Payment Application record, the system checks to see if there are any pending payments, or negative change orders. If detected, the system displays a message.

Payment Grid which has negative line items

When you open the Payment Application grid, the line items which will be modified because of a pending Negative Change order will have a yellow alert in the Scheduled Value cell. You can select the cell to view the details of the Change Order. The details include the BP name, BP record number, Line Number, and the Amount fields.

Line items from negative Change orders which are in draft status will not be seen in the Payment Application grid, but if a line item has been modified or removed from an existing record which is in draft status, the line item from negative change order can be seen in the Payment Application grid.

In case of Summary Payment Application, the alert will be seen in the Summary line, if the summary line item amount is negative. Similar alert will be seen if the costed line item is negative.

The sort order in the window begins by Business Process, then by Record Number, then by Line Number, and finally by Costed Line Number.

Creating negative change orders when the Payment Application is in progress (in-flight)

Example

First, the user creates the contract record CON-001 and sends the contract to a step that creates Schedule of Values.

Then, the user creates a Payment Application BP record PA-001 and sends the BP record to the next step for approval. At this point the BP record is in progress (in-flight).

Then, the user creates a Change Order (Change Commit) BP record to modify the committed line with a line item with a negative amount (a Negative Change Order CC-001) and sends it to the next step for approval.

The creation is successful.

Creating multiple negative change orders

① Note

The following is applicable to Change Orders (Change Commits) that point to the Base Commit that does not have any SOV restrictions.

Example

First, the user creates the contract record CON-001 and sends the contract to a step that creates Schedule of Values.

Then, the user creates a Change Order (Change Commit) BP record to modify the committed line with a line item with negative amount (a Negative Change Order CC-001) and sends it to the next step for approval.

Then, the user creates another Negative Change Order for the same contract record CON-001.

The creation is successful.

Enter Payment Application Line Item Information

Line items on the payment application have special functionality. Payment application line items are created automatically from the line items on the associated base commit and any change commits. The columns that appear on the grid (including formula columns) are part of the business process detail form design. If the **Add All SOV Lines** option is enabled for a Payment Application BP with individual commit line items or group by CBS Codes and the grid contains more than 3000 line items, the grid displays a maximum of 3000 line items by default; however, you can adjust the grid to display between 200 and 10000.

To enter line item information on a payment application:

1. In the **Standard** tab of the payment application business process form, select **Add**. This displays all the SOV lines with the selected Base Commit BP record in the upper form.

Note

- In a new payment record, when you navigate to the payment grid and no line items are saved, the system will not calculate the sum of all (SOV) line items for data elements in the upper form.
- If the Payment Applications business process has been configured with **Add All SOV Lines** selected, the **Add** button in the Payment Grid will be hidden.
- If the Summary Payment Application business process has been configured with **Add only edited SOV Line Items**, the **Apply line item value of Percentage Complete to Date to costed lines** option will be hidden.

- Depending upon the design of the BPs, some fields may be auto-populated with data from the base commit and change commit. For a field to auto-populate, the same data element must be used on the base commit, change commit, and payment application. Line items appear from the base commit and any change commits based on the statuses of those business processes, as designed.
 - For classic Payment Applications BP, when the upper form has a DE which is configured as "Auto-populate <sum of all lines>," the system will calculate the sum of all SOV line items. The system will not calculate the sum of all detail line items.
2. Enter details for the line items that must be paid. You can enter values in any editable field on the grid.
 3. When you have completed editing the Line Items window, select **Save**.
 - Line items with payments are added to the grid, and the total payment per page is displayed.
 - If the **Add only edited SOV Line Items** option is enabled in uDesigner, only the edited SOV line items will be saved by the Summary Payment Application business process.
 - If a payment must be made in a subsequent step, select **Add** again to re-invoke the SOV lines screen. All lines become visible and any lines that were previously added open in edit mode.

A pen icon appears in the second column to indicate which rows have been modified. When a payment has been added and saved, the pen icon turns green. When the row is still being edited, the pen icon is yellow.

To **Remove** an SOV line that you added to the grid, select  from the toolbar.

The columns with decimal values preserve, or maintain, the decimal values specified in the data element of the following business processes and SOV types:

- Schedule of Values (SOV) sheet: Payment Application and Summary Payment Applications
- Payment Application Line Items
- Summary Payment Application Line Items

As a result, the system will not round the decimal value to two decimals, for the preceding DEs.

Errors

The first column of the payment applications grid is marked by an (x) icon and indicates errors within edited line items. An (x) icon appears in this column when rows have errors. To view errors in the log, select **Check Errors** or select the (x) icon.

Payment Status

The second column of the payment applications grid is marked by a pen icon and indicates payment status. A pen icon appears in this column to indicate which rows have been modified. When a payment has been added and saved, the pen icon turns green. When the row is still being edited, the pen icon is yellow.

To undo line item changes without closing the Line Items window:

In the Line Items window, select **Cancel**. Any line item information that you have entered or changed will be cleared, and the fields will revert to their original values.

SOV type Payment Application and SOV line items type Individual commit line items

Note

Although uDesigner supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is *only* supported for decimal or current amount DEs.

Update Auto-populate on payment application option is enabled for a Change Order BP

If the **Update Auto-populate on payment application** option (located on the **Options** tab in uDesigner) is enabled for a Change Order BP and you create a Payment Application in your project (**Payment Applications** node), in the **Line Items** tab of the **Create New Payment Applications** window, the following information applies:

1. The **Description** column and the **Spend Category** column are set to auto-populate from the Base Commit and receive the latest updated values from the Change Order that references this SOV line items.
2. The Change Order then routes the record to the terminal status.
3. The **Description** column and the **Spend Category** column are set to auto-populate from the Base Commit and receive the latest updated values from the Change Order that references this SOV line items.

When the auto-populated data elements are updated in referenced SOV line items (in the Change Order) and routed to the approved step, new payment record elements that are set to auto-populate from Base Commit will be updated with the latest values from the Change Order. The new payment record elements will always get the values from the latest Change Order whenever these values are updated in the payment record. Upon routing the payment record to terminal status, it will further update the values in SOV line items.

Add All SOV Lines option is enabled for a Payment Application BP

If the **Add All SOV Lines** option (located on the **Options** tab in uDesigner) is enabled for a Payment Application BP with individual commit line items or group by CBS Codes and the grid on the **Line Items** tab contains more than 3000 line items, the following information applies:

- When you need to create a Payment Application BP record with more than 2000 line items or add more than 2000 line items to an SOV, Oracle recommends that you use the Import option to import a CSV or Microsoft Excel file. For more information, see [Importing, Exporting, and Integration](#).

- When you make changes to line items using the grid, the pagination controls are hidden until all the line items are saved. This applies to both creation and in-flight steps.
- Use pagination controls to control the number of lines displayed, which improves system performance.

Pending SOV type Payment Application, or SOV type Summary Payment Application, and SOV line items type Individual commit line items

① Note

In the payment record, the values are auto-populated from the Base Commit if the **Update Auto-populate on payment application** option (in **Options** tab) is not enabled for a Change Order BP.

For a pending payment record, in the **Line Items** tab of the **Payment Applications** window:

1. The **Description** column and the **Spend Category** column are set to auto-populate from the Base Commit and receive the latest updated values from the Change Order that references this SOV line items.
2. The Change Order then routes the record to the terminal status.
3. The **Description** column and the **Spend Category** column are set to auto-populate from the Base Commit and receive the latest updated values from the Change Order that references this SOV line items.

When the auto-populated data elements are updated in referenced SOV line items (in the Change Order) and route to approved step, the pending payment (after opening and accepting the task) will receive an SOV alert, if there is an SOV merge. When you select **OK**, the auto-populate data elements (from Base Commit) are updated with the latest Change Order in the grid, along with the latest SOV line items values.

① Note

When performing an SOV merge, line-item-level validations will be bypassed. To prevent over-payments, ensure that appropriate rules are configured for the SOV remaining commit balance in the SOV sheet. While the SOV merge keeps data in sync between the SOV and payment lines, the system will not enforce validation rules unless the payment lines are manually edited.

If you open a pending payment that is in an accepted state and navigate to the payment grid, all the existing payment lines will receive the latest values for the auto-populated data elements from the latest Change Order.

Summary Payment Applications behavior for Variable Unit Cost Lines

For the Variable Unit Cost line items, the Quantity this Period column is editable for both the summary and costed lines. You can enter quantity at the summary and push that quantity to the costed lines.

The Requested this Period amount will be calculated based on the Unit Price and Quantity this Period for each costed line. In the summary line item, the Amount this Period is populated with the sum of costed lines - unit price * Quantity this Period, and the request this period will be calculated accordingly.

In the Payment Applications for the Variable Unit Cost line items, the Amount this Period for the summary line will be calculated as sum of each costed line (`uuu_unit_price * quantity this period`), if "Total the cost breakdown values to line item" is in the design. The Amount this Period will be read-only for both the summary and the costed lines.

Amount this Period (`uuu_spa_amt_tp`)

This `uuu_field` DE will be calculated by the system in the summary line if you enter Quantity this Period in the costed lines. The calculation of this field in summary line will be:
`uuu_spa_amt_tp` = sum of each costed line (`uuu_unit_price * quantity this period`). In the design, the "Total the cost breakdown values to line item" must be selected. For costed lines, the `uuu_spa_amt_tp` DE value will always zero (0).

The same applies when you import the payment line items for Variable Unit Cost line items, using CSV or Restful services. The Amount this Period in summary line will always be the sum of each costed line (`uuu_unit_price * quantity this period`). For the costed line items, the `uuu_spa_amt_tp` DE value will be zero (0).

The Requested this Period will be calculated based on the user-defined formula, for both the summary and the costed line items, and % Complete to Date (for the summary and the costed line items) is calculated based on the existing formula as: % complete to date = $(\text{uuu\_spa\_prev\_amt} + (\text{uuu\_spa\_qty\_tp} * \text{uuu\_unit\_price}) + \text{uuu\_spa\_amt\_tp} + \text{uuu\_spa\_other\_tp} + \text{uuu\_pa\_mat\_stored}) / \text{scheduled\_value}$.

Note

The Percent Complete to Date field is read-only for the summary Variable Unit Cost line item.

Percentage Complete to Date

In the **Create New Payment application with Summary** grid, you can edit the value of the **Percentage Complete to Date** for the variable unit cost line items—when the **Apply line item value of Percentage Complete to Date to costed lines** checkbox is selected—and can push percentage down to the costed lines).

Note

In the **Create New Payment application with Summary** grid, the value of the **Percentage Complete to Date** for the variable unit cost line items is read-only if the **Apply line item value of Percentage Complete to Date to costed lines** checkbox is selected.

In the **Create New Payment application with Summary** grid, based on the value of the **Percentage Complete to Date** for the variable unit cost line items, the value of the **Quantity this Period** will get calculated *for costed lines*, and the value of the **Amount this Period** will be calculated *for summary line*.

View Payment Application Line Item History

When payment application records are in view mode, a **Line Item History** option becomes available. This provides a snapshot view of the line item grid as of the last entry.

Note

View mode refers to the non-editable version of the form. For example, for workflow BPs, this is before selecting **Accept Task** or after the form has gone through all the workflow steps and is complete. For non-workflow BPs, this is after editing has been completed.

To access line item history:

1. Open a payment application record from the log. Be sure the record is in view mode.
2. From the **More Actions** menu, select **Line Item History**.
The Line Items History window opens, displaying the payment application line item grid, as view-only, with data entered to date.

Note

This option is also available in Classic view, labeled **Line Item History Classic**.

By default, the first 100 line items are displayed on the page. If your payment application BP has more than 100 line items, you can scroll through the other pages, or you can choose to display up to 500 line items on the same page. Displaying more than 100 line items on the page may take several seconds to load.

Export Line Item History

You can export the line item history of a payment application record to a CSV or Microsoft Excel file.

To export payment application line item history information:

1. Open a payment application record from the log. Be sure the record is in view mode.
2. From the **More Actions** menu, select **Line Item History**.
The Line Item History window opens.

Note

This option is also available in Classic view, labeled **Line Item History Classic**.

3. From the toolbar, select **Print** , and choose how to export (**Print**, **Export To CSV**, or **Export To Excel**).
Depending on your browser, the file may download automatically to your computer or prompt you to choose a location to save the file.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

4. Select **Save**, and specify the file name and location to which to save a copy of the CSV or Excel file.

Save Payment Application in Draft Mode

You can save a payment application record in draft mode by selecting **Save** from the toolbar.

When you open the draft again to send, the system will check to see if there is any modification done by other users. If the system identifies that there is modification to your payment application, you will be asked to accept new changes before proceeding.

Draft Mode and SOV Synchronization

If you create a payment application record and save it in Draft mode, and your SOV changes before you route the draft payment application, an error can result when you attempt to route the record. The error *Line Items must be validated before proceeding* can result if the SOV has changed while your payment application is in Draft mode.

To fix payment application BPs that are affected by changes to the SOV:

1. Open the draft payment application record.
2. Select **Add**, and select **Detail Line Item** to open the line item entry grid. Line items that are affected by SOV changes are indicated with check marks.
3. Select **OK**. The line items are validated against the SOV.

View the Schedule of Values (SOV) Sheet

The Schedule of Values (SOV) for Payment Application functionality provides a way to assemble information from the Base commits and Change commits (Commit), as well as the payment history, in an SOV sheet. You can open the SOV sheet either from the Schedule of Values (SOV) log, or from within a payment application record (the record must be in an editable mode).

When the base commit record is created and reaches a specified terminal status (for example, Approved), the SOV sheet is automatically created, and line items display as rows. As change commits are created and approved (or other specified status), they are added automatically to the SOV sheet. As payment records are created, these also will affect the SOV.

If you add statuses to the list of those that update or roll up to the SOV, do *not* move payment records into these new statuses until the configuration is complete. If payment records have

already been moved into newly added terminal statuses before those statuses were configured to update the SOV, those records will not trigger the SOV update as expected. After the configuration is updated, workflow issues can occur—such as being blocked from moving older payment records to SOV-updating statuses, often because a required SOV merge has not occurred. To avoid these issues:

- Only move payment records into terminal statuses that update the SOV after the statuses are officially added to the configuration.
- If payment records exist in a newly added status before the configuration, you must create a new payment record (this can be a dummy record with a zero value) and move it through the workflow to a terminal status that updates the SOV. This allows the system to process subsequent records normally.

Data that is displayed on the SOV sheet will depend on the columns that have been added to the SOV structure.

The SOV displays the source information from the base commit and any change commits. The source for each line can be one or more lines from one or more records.

Depending on the design of the associated business processes, the SOV may list each line entry for the base commit and all change commits as separate line items, or it may group entries with the same CBS code and display the total.

When you are working with the SOV sheets, in a Project/Shell, you can enter the item number (**Item #** field) for each of the SOV lines:

- The system stores the SOV sheet based on the **Item #** column.
- When line items roll up to the SOV sheet from the Base Commit and Change Commit BP records, the system generates the values in the **Item #** field.
- The **Item #** for each SOV sheet starts with 000010 and this value is incremented by 10. So, if there are two lines coming from the Base Commit, the values seen are: 000010 and 000020.
- Although the system generates the **Item #** entries based on the order of entry in the Purchase Order (PO) Amendment, you can change the order by dragging and dropping the lines in the order that you want them listed while you are viewing the sheet (that is, your changes are not saved).
- The subsequent lines coming from the Change Commit (CC) records (with reference to the above mentioned Base Commit [BC] record) can be seen in the SOV sheet with increments of 10.

For Payment Applications SOV and Summary Payment Applications SOV, the structure is copied from the line item grid structure of the Payment Application BP.

When a Payment Application BP references a Base Commits of the Summary Payment Applications SOV, the line items of the Payment Application BP will reflect the line items of the Base Commits as well as any associated Change Commits.

In a Payment Application BP referring to the commits and the Summary Payment Applications SOV type, depending on the BP setup, you can:

- Include only one Payment Application record, or
- Include multiple Payment Application records

See [Payment Application Business Processes](#) for details.

To open the Line Item window of a Payment Application BP form, select **Add**. The window displays a list of line items from the Base Commits (and any Chance Commits), and the values are populated if auto-population (from Base Commits and Change Commits) has been defined.

To view the associated SOV sheet from within the payment application BP:

1. In the left Navigator, select **Logs**, and then select **Payment Applications**.
2. Select a Payment Application record, and select **Open**. The Payment Application form opens.
3. From the **More Actions** menu, select **SOV**. The Schedule of Values window opens.

 Note

Ensure that the form is not in a view-only mode.

Importing, Exporting, and Integration

You can use CSV import to create Payment Application Business Processes, or to add SOV line items to an existing Business Process.

You can export payment application CSV templates at the log level (for header and line item templates) and at the record level (for line item templates). You can then modify the templates and import them to create records (at the log level) or to add line items to an existing record (at the record level).

An integration interface must be defined to support CSV import. If you find that you cannot perform the file import, see your Administrator. Also, new records can be created and line items added using integration through Web Services. Integration through Web Services must be coordinated with an Oracle Primavera representative.

The columns with decimal values preserve, or maintain, the decimal values specified in the data element of the following business processes and SOV types:

- Schedule of Values (SOV) sheet: Payment Application and Summary Payment Applications
- Payment Application Line Items
- Summary Payment Application Line Items

As a result, the system will not round the decimal value to two decimals, for the preceding DEs.

Multiple Payment Applications and negative change orders (Change Commits) and CSV import and Web Services

Previously, the system only allowed one Payment Application, or negative Change Commit record, per SOV. You can now create multiple Payment Applications, or negative Change Commit records, against the SOV. You can also create these types of records through CSV import and Web Services.

 Note

You can create only one record for each import.

Import New Payment Application Records

You can export a CSV template that includes the upper form and detail form fields as columns. These fields include the header fields from the upper form and the line item SOV fields from the detail form, including the detail line item fields defined in Integration. The Reference Number field is exported as a column for payment application business processes that use individual line items. The Reference number field is not exported as a column for payment application business processes that use Group by CBS.

You can then modify the exported CSV template and import it to create the upper form header and the detail form line items for the new business process.

Note

The system lets you import Payment Application records and line items by way of CSV and REST.

To export a copy of the payment application business process template:

1. Navigate to the payment application business process log.
2. From the toolbar, select **Actions**, and **Export to CSV Template** or **Export to Microsoft Excel Template**.

Depending on your browser, the template will automatically be downloaded to your computer, or you will be prompted to download it manually.

To modify the exported payment application business process template:

1. Open the exported CSV file or Excel file in Microsoft Excel.
2. Enter the business process information into the spreadsheet. Each upper form header record must begin with an "H". Each line item must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Important information:

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- When a data element (DE) is set to auto-populate from a Base Commit, Change Commit, or an SOV, the auto-populated values takes precedence when 0 value is sent for those DEs in CSV, Excel, or REST API. Any value specified in the input request is ignored and the auto-populated values from Base Commit, Change Commit, or SOV will be used.
- Any line items with the Amount equal to zero will not be imported.
- SOV locking is enforced.
- Use to add new business process records only; not to modify existing business processes.
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this

entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.

- If the Integration design for the business process includes a Description field for line items, and the associated SOV sheet also contains a Description field, the description from the SOV sheet is imported, and the line item description is not imported.

To import the payment application business process template:

1. Navigate to the payment application business process log.
2. Select **Actions**, and hover over **Import**.
3. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
4. Browse to select the file to import, and then select **Next**.
5. Add any attachments to the import.
6. Select **Upload** when finished.

If there are any import errors, you can open the CSV file to view and correct the error. No records are imported if any rows contain an import error.

Import Payment Application Line Items into a BP

You can export a template that includes the detail form fields as columns for a specific business process. These fields include the SOV data and detail line item fields defined in Integration. The Reference Number field is exported as a column for payment application business processes that use individual line items. The Reference number field is not exported as a column for payment application business processes that use Group by CBS. If multiple tabs are designed for the line items in the business process, the tab columns are included in the export. All the data on the Standard tab is exported; no data on the other tabs is exported.

You can then modify the exported template and import it to create line items for the business process. The exported template contains SOV record information.

Note

The system lets you import Payment Application records and line items by way of CSV and REST.

The Payment Application of Summary Payment Application SOV type supports Record, Line Item, and Cost Allocation creation through CSV integration.

If the payment line items have already been added in the **Standard** tab, importing of the line items through CSV is not permitted.

When importing Summary Payment line items for Payment Applications BPs, the system uses the values that the user provided for the auto-populate data elements, if the fields were editable originally; otherwise, the system uses the values that are from Base Commit line items or Change Commit line items.

To export the payment application line item template:

If multiple tabs are designed for the line items in the business process, only the data in the Standard tab is exported. For the other tabs, the tab name is included in the exported data for reference, but no data in these tabs is exported.

1. Navigate to the payment application business process log.

2. Select **Create** to create a business process.
3. Select a **Reference Base Commit** for the business process. If you do not select a Reference Base Commit, the exported template will not contain data. Data from all columns in the Reference Base Commit is exported.
4. From the **More Actions** menu, select **Export Line Item Template**, and then select **CSV** or **Microsoft Excel**.

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

To modify the payment application line item template:

1. Open the exported CSV or Excel file in Microsoft Excel. The SOV line items are listed.
2. Enter the line item information into the spreadsheet. Each line must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Important information:

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- When a data element (DE) is set to auto-populate from a Base Commit, Change Commit, or an SOV, the auto-populated values takes precedence when 0 value is sent for those DEs in CSV, Excel, or REST API. Any value specified in the input request is ignored and the auto-populated values from Base Commit, Change Commit, or SOV will be used.
- Any line items with the Amount equal to zero will not be imported.
- SOV locking is enforced
- Any line items that you import will replace the existing line items in the business process.
- Use to add new lines only, not to modify existing lines
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.
- If the Integration design for the business process includes a Description field for line items, and the associated SOV sheet also contains a Description field, the description from the SOV sheet is imported, and the line item description is not imported.

To import the payment application line item template:

Note

The line items that you import will replace any existing line items.

1. Navigate to the Payment Application business process log.
2. Select a business process from the log.
3. Select **Actions**, and hover over **Import**.
4. Select either **Data From CSV File** or **Data From Microsoft Excel File**.

5. Browse to select the file to import, and then select **Next**.
6. Add any attachments to the import.
7. Select **Upload** when finished.
If there are any import errors, you can open the CSV or Excel file to view and correct the error. No records are imported if any rows contain an import error.

You can add line items with 0 (zero) value in the CSV or Excel template. In such scenario, after you import your CSV or Excel template to the BP record, the BP record will have your added line items with 0 (zero) value.

Example

You import a CSV or Excel template that has the following three line items to your BP record:

1-Amount = 1000

2-Amount = 0

3-Amount = 0

After the import is complete, all three line items will be added to your BP record.

Using Microsoft Excel to Update Line-Items in Classic Payment Application BP Records

You can export existing line-item data from a *classic* Payment Applications business process (BP) record from Unifier, make updates in Microsoft Excel, and then import the changes back into the system.

By leveraging a formatted Excel template that identifies which fields are editable, this procedure is more efficient for editing multiple line items than compared to a manual in-system entry.

Limitations

The following limitations apply:

- Summary Payment Applications and non-workflow Payment Application BPs are not supported.
- This functionality is not available for Group by Commit Codes.
- You cannot add new lines unless the workflow step explicitly allows.
- The template cannot be used if SOV Breakdown lines are present in the record.
- The import will fail if you change the template structure, tab order, or columns. Do not rename the tabs.
- An erroneous line item will impede the processing of all other line items in the BP record.
- You cannot export or import line items with breakdown.
- Picker data elements (DEs) cannot be exported, but can be imported for updates.
- A maximum of 5 import jobs can be uploaded concurrently for different projects/shells, whereas only 1 import job can be uploaded within a project and a Payment Application BP
- Total imports per record are subject to system limits.

Prerequisites

- Only classic Payment Application BPs set up with Individual Commit Line Items are supported.

- The Payment Application BP is associated with a workflow.
- You have the required permissions to update, export, and import Payment Application BP records.
- For the current workflow step, you have the following permissions :
 - To modify line items, Allow Modification line items is enabled.
 - To add or delete line items, Allow Add/Remove/Copy line item is enabled.
- At least one line item exists in the record (added manually or previously imported).

Procedure

To update line items in a classic Payment Application business record using Microsoft Excel:

1. Export line-item data from a Payment Applications BP record.
 - a. Go to the project or shell, and switch to **User** mode.
 - b. In the left Navigator, select **Logs**, and then select the Payment Applications BP sub-node.
If you have a customized left Navigator, navigate as required to access the relevant Payment Applications BP Record.
 - c. In the **Payment Applications** BP log (right pane), select the targeted Payment Applications BP record.
 - d. Open the selected Payment Applications BP record, and select the **Line Items** tab.
 - e. To download the Microsoft Excel file with all SOV rows containing line items, from the toolbar, select **Export Line Item Data** (↓).

2. Edit the Excel file.

Ensure the template's worksheet order and column structure matches the format as received. The **Import Data Template** must be the second worksheet, with **Line Item ID**, and **Ref.**, as the first two columns.

- a. In the Excel file, update editable fields as needed, such as **Quantity**, **Amount This Period**, **Retainage This Period**, and so on.

Note

- Do not edit the read-only columns (grey columns).
- Do not modify column order, rename, duplicate, or remove columns.
- Do not add new rows that do not match record line items unless the BP step explicitly allows this.

- b. In the **Action** column, select one of the following values:
 - To update existing lines or add value to SOV lines that are not currently in the record, select **Update**.
 - To remove a line item (if allowed by step permissions), select **Delete**.
 - If you do not wish to modify a line item, leave it blank.
 - c. After finalizing all entries, save the updated Excel file.
3. Import the updated template.

- a. Return to the classic Payment Applications BP record (in step 1c).
 - b. From the toolbar, select **Import** (📁) , and then select **Update From Microsoft Excel File** .
 - c. Drag and drop the Excel file you updated in the previous step, and then select **Upload**.
The system processes only those lines whose **Action** column is set to **Update** or **Delete**. After processing:
 - The grid view displays added and updated line items, with any deleted line items removed from view.
 - Calculated/formula fields and upper form summaries are updated accordingly.
 - Any errors (such as invalid references, duplicates, or attempt to modify restricted columns) will prevent completion. If errors are detected, you will be prompted to download a corrected version of your template with error messages in the first column.
4. After import, perform the following checks:
- a. Review the Audit Log of the record.
 - b. If problems occur, review error prompts or refer to the re-downloaded Excel sheet for specifics.

Payment Application Grid Column Total

The following information is related to BP run-time only for the *Payment Applications and Summary Payments Applications Business Processes* (Standard tab). For Payment Applications and Summary Payments Applications, based on the options set for the Total property for the Data Elements (DEs) in uDesigner, when you add or modify the grid, the Total row displayed shows the following values:

- Blank
The system displays the value as empty in the Total Column (that particular DE column).
- Sum of All Rows
The system displays the value as "Sum of All Rows" in the Total Column.
- Use Formula Definition
The system displays the value as "Formula Defined" in the Total Column. In other words, the system calculates the formula by using the values from the Total row for the respective DEs.

If the formula was reset to Manual, the system resets the Total to "Sum of All Rows."

The system calculated the Total, for DEs with predefined formula, as follows:

- %Complete to Date (uuu_spa_per_comp)
 - Custom formula
Based on the whether the property is enabled.
 - System-defined formula
Based on whether the property is enabled.
- Amount This period (uuu_spa_amt_tp)
Based on whether the property is enabled. (Either Blank or Sum of All Rows)

Note

With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.

Payment Application BP Record in Terminal Status

The data elements on the Upper Form that are set to receive the values from the **Sum of All Lines** *will not be re-evaluated* if the Payment Application BP record is in **Terminal** status.

Payment Application BP Record in Non-Terminal Status (In-Flight)

An in-flight Payment Application BP record is a Payment application that is in progress. For example, a Payment that has been in review status and now it is moving to the next step in the workflow, which is approval.

Note

A Payment that is in **Draft** status has been created, but it has not been sent to the next step.

When a **Contracts** BP is configured to allow multiple payments (the **Remove SOV Restriction** field checkbox is selected), the Upper Form data elements that are set to receive the values from the **Sum of All Lines** fields will receive values from the latest SOV, including the existing line item data.

When a **Contracts** BP is configured to not allow multiple payments (the **Remove SOV Restriction** field checkbox is not selected), the Upper Form data elements that are set to receive the values from the **Sum of All Lines** fields will receive values from the SOV at the time of Payment record creation, including the existing line item data.

General Spends Business Processes

General spends business processes enable you to invoice at the CBS or breakdown level, supporting multiple invoices per SOV. These business processes do not calculate retainage or stored materials. General spends business processes are designed in uDesigner. For more information, refer to the *Unifier uDesigner User Guide*.

You can use CSV import to create general spends business processes or to add SOV line items to existing business processes. You can export general spends business process templates at the log level (for header and line item templates, with no data exported) and at the record level (for line item templates with SOV line item data exported). You can modify the templates and import them to create records (at the log level) or to add line items to an existing record (at the record level).

An Integration interface must be defined to support CSV import. If you find that you cannot perform the file import, see your Administrator.

Also, new records can be created and line items added using Integration through Web Services. Integration through Web Services must be coordinated with an Oracle Primavera representative.

Import New General Spends Records

You can export a CSV template that includes the upper form and detail form fields as columns. These fields include the header fields from the upper form and the line item SOV fields from the detail form, including the detail line item fields defined in Integration. These fields are always exported in the template as well:

- Reference Number
- Description
- CBS Code
- Breakdown

You can then modify the exported template and import it to create the upper form header information and the detail form line items for the new business process.

To export a copy of the general spends business process template:

1. Navigate to the General Spends business process log.
2. Select **Actions**, and select **Export CSV Template** or **Export Microsoft Excel Template**. Depending on your browser, the template will automatically be downloaded to your computer, or you will be prompted to download it manually.

To modify the exported general spends business process template:

1. Open the CSV or Excel file in Microsoft Excel.
2. Enter the business process information into the spreadsheet. Each upper form header record must begin with an "H". Each line item must begin with a "D". Add a new "D" line for each line item in the business process. For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Ensure that you enter the required values for the Amount, CBS Code, and Short Description columns.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- Any line items with the Amount equal to zero will not be imported.
- Use to add new business process records only, not to modify existing business processes.
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.
- If the Integration design for the business process includes a Description field for line items, and the associated SOV sheet also contains a Description field, the description from the SOV sheet is imported, and the line item description is not imported.

To import the general spends business process template:

1. Navigate to the General Spends business process log.
2. Select **Actions**, and hover over **Import**.
3. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
4. Browse to select the file to import, and then select **Next**.
5. Add any attachments to the import.
6. Select **Upload** when finished.

If there are any import errors, you can open the CSV file to view and correct the error. No records are imported if any rows contain an import error.

Import General Spends Line Items into a Business Process

You can export a template that includes the detail form fields as columns for a specific business process. These fields include the detail line item columns defined in Integration. These fields are always exported in the template as well:

- Reference Number
- Description
- CBS Code
- Breakdown

You can then modify the amounts on the exported template and import it to create line items for the business process. The exported template contains SOV record information.

To export the general spends line item template:

If multiple tabs are designed for the line items in the business process, only the data in the Standard tab is exported. For the other tabs, the tab name is included in the exported data for

reference, but no data in these tabs is exported. Data from all columns in the Reference Base Commit is exported.

1. Navigate to the General Spends business process log.
2. Select **Create** to create a business process.
3. Select a **Reference Base Commit** for the business process. If you do not select a Reference Base Commit, the exported template will not contain data. Data from all columns in the Reference Base Commit is exported.
4. From the **More Actions** menu, select **Export Line Item Template**, and then select **CSV** or **Microsoft Excel**.
Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

To modify the general spends line item template:

1. Open the CSV or Excel file in Microsoft Excel. The SOV line item data is shown.
2. Enter the line item information into the spreadsheet. Each line item must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter required values for the Amount, CBS Code, and Short Description columns.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- Any line items with the Amount equal to zero will not be imported.
- Use the import to add new line items only, not to modify existing line items.
- Any line items you import will be added after any existing line items.
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.
- If the Integration design for the business process includes a Description field for line items, and the associated SOV sheet also contains a Description field, the description from the SOV sheet is imported, and the line item description is not imported.

To import the general spends line item template:

1. Navigate to the General Spends business process log.
2. Open a business process from the log.
3. Select **Actions**, and hover over **Import**.
4. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
5. Browse to select the file to import, and then select **Next**.
6. Add any attachments to the import.
7. Select **Upload** when finished.

If there are any import errors, you can open the CSV or Excel file to view and correct the error. No records are imported if any rows contain an import error.

Lump Sum and Unit Cost

The Cost Line Item Type (uuu_cost_li_type) on the detail form is populated with Lump Sum or Unit Cost based on the selection of the option that you have made at the time of adding line items. When you click Add and select either Lump Sum, or Unit Cost, Line Items window opens. The Line Items window has two sections: Upper form (Detail form that follows the uDesigner Detail form design) and lower grid (fixed by system). The following explains all the fields in detail:

Line Item window toolbar

- Save
- Spelling
- Attach
- Upload Images
- Delete
- Line Item
- Close window

Line Item window fields

Select **Add**, and then select **Lump Sum** (No added cost) - Upper form (General)

- Short Description
- Cost Line Item Type
- Amount
- Role Effective Date
- Description
- Spend Category
- Work Package
- Item Quantity
- Unit of Measure
- Item Unit Cost
- Costed Amount

Select **Add**, and then select **Lump Sum** (Added cost) - Upper form (General)

- Short Description
- Cost Line Item Type
- Amount
- Description
- Costed Quantity
- Not Costed Quantity
- Spend Category

- Work Package
- Item Quantity
- Unit of Measure
- Item Unit Cost
- Costed Amount
- Not Costed Amount

Select **Add**, and then select **Unit Cost** (No added cost) - Upper form (General)

- Short Description
- Cost Line Item Type
- Amount
- Role Effective Date
- Description
- Costed Quantity
- Not Costed Quantity
- Spend Category
- Work Package
- Item Quantity
- Unit of Measure
- Item Unit Cost
- Costed Amount
- Not Costed Amount

Select **Add**, and then select **Unit Cost** (Added cost) - Upper form (General)

- Short Description
- Cost Line Item Type
- Amount
- Role Effective Date
- Description
- Costed Quantity
- Not Costed Quantity
- Spend Category
- Work Package
- Item Quantity
- Unit of Measure
- Item Unit Cost
- Costed Amount
- Not Costed Amount

Toolbar - Upper form (lower block)

- **Add Cost**
This option allows you to add cost distribution lines to the grid, within a line item. You can add more than one cost lines by selecting multiple items from the CBS Picker window (Select CBS Code). Selecting more than one CBS/CBS code results in added lines to the grid and the Cost Code/Code Name fields are populated accordingly. You can edit the CBS/CBS code by double-clicking the cell. The Add Cost option is available when the Allow Cost Breakdown is enabled. Add Cost will be disabled when the record reaches terminal status.
- **Remove Cost**
This option allows you to remove cost distribution lines from the grid, within a line item. You can select multiple lines and remove them collectively. The Remove Cost option is available when the Allow Cost Breakdown is enabled. Remove Cost will be disabled when the record reaches terminal status.

Note

When you remove a line item from the grid, it will impact the calculations in the General section. If the line item is coming from an SOV sheet, deletion is not permitted on those lines.

- **Copy Cost**
This option allows you to select/copy one costed line item and create a new costed line item using the selected/copied costed line item. You cannot select more than one costed line item for copying. The Copy Cost option is available when the Allow Cost Breakdown is enabled. Copy Cost will be disabled when the record reaches terminal status.
- **Add Remaining**
 - When you select this option, the CBS Picker window (Select CBS Code) opens and allows you to select multiple codes. You can allocate the remaining cost, or quantity, to multiple codes.
 - If you select Lump Sum as the cost line item type, you can use the Add Remaining option for adding Not Costed Amount line, and the Amount field is auto-populated based on Not Costed Amount. If the Costed Amount (total amount from all costed lines), on the General section, is equal to the Line Item Amount, the Add Remaining option will be disabled.
 - If you select Unit Cost as the cost line item type, you can use the Add Remaining option for adding Not Costed Quantity line, and the Quantity field is auto-populated based on Not Costed Quantity. If the Costed Quantity (total quantity from all costed lines), on the General section, is equal to the Line Item Quantity, the Add Remaining option will be disabled.
 - The Add Remaining option is available when the Allow Cost Breakdown is enabled. Add Remaining will be disabled when the record reaches terminal status.

Fields - Upper form (lower block)

You can make change within the editable or required cells of the following columns:

- **Cost Code**
You can select the cell, and select a Cost Code from a Cost Sheet of the same Shell.
- **Code Name**
This is a read-only field. The value is auto-populated by the system according to the Cost Code selection.
- **Short Description**

The value is auto-populated from the line item Short Description field. You can modify the default value.

- **Quantity**
If the type of the line item is Unit Cost, you can edit the value of this field and enter the costed quantity. If the type of the line item is Lump Sum, this field will not display.
- **Unit Cost**
If the type of the line item is Unit Cost, the value of this field is read-only. The value is auto-populated according to the unit price value that you entered in the upper form (General). If no value was entered in the upper form (General), the default value of this field will be zero. If the type of the line item is Lump Sum, this field will not display.
- **Amount**
If the type of the line item is Unit Cost, this field is calculated by the system (Quantity * Unit Cost). If the type of the line item is Lump Sum, you can edit the value of this field and enter the costed amount.

Change Commits BP of Summary Payment Applications SOV type

The Change Commits BP of Summary Payment Applications SOV type, similar to the Base Commits, you use Lump Sum and Unit Cost items to add new line items. In addition, you can use the Modify Committed Line Item option (Add) to modify a reference commit line item that exists in the Reference Base Commits record. When you select the Modify Committed Line Item option (Add), the Commit Line Item Picker window opens, and the line items existing in the SOV sheet.

Commit Line Item Picker window

You can select any summary line item from the Commit Line Item picker

The following explains the fields in the Commit Line Item Picker window:

- **Ref**
This column contains the reference number of the Change Commits Detail Line Item. The summary row displays the reference number of the Detail Line Item, and the child row displays the reference number of the Cost Distribution Line Item (costed line item) from the parent line. For example, 1.1 is the costed line item for line item 1.
- **Cost Code**
This column contains the CBS Code associated with each distribution line. For summary rows (parent), the value for this column is blank.
- **Code Name**
This column contains the CBS Code associated with the code. For summary rows, the value for this column is blank.
- **Cost Type**
This column contains the Cost Line Item type for the Summary rows. For child rows, the value for this column is blank.
- **Description**
This column contains the contents of the Short Description (short_desc) field in the Detail Line item. For summary rows (parent), this column contains the Short Description of the Line Item. For distribution rows, this column shows the Short Description of each costed line item, and based on the user input, the value might, or might not be, the same as the Short Description of the Line Item.

Note

The names of the columns are based on the Summary Payment Applications SOV sheet structure.

Cost Distribution Grid log columns

- **Cost Code**
This field is both editable and required. You can select the cell and select a Cost Code from a Cost Sheet of the same Shell. Similar to the Line Items, you can enter a Cost Code and the same Cost Code will be available to select. You cannot change the Cost Code for existing Line Items coming from SOV.
- **Code Name**
This field is read-only, and the value is auto-populated by the system according to the Cost Code that you have selected.
- **Short Description**
This field is editable, and the default value is auto-populated according to the Short Description (short_desc) field.
- **Current Quantity**
This field is read-only and the value is auto-populated by the system if you have selected Modify Reference Commit option, and the Cost Line Item type (uuu_cost_li_type) of the selected Commit Line Item is Unit Cost.

Note

If the conditions are not met, the system auto-populates the value as "Quantity," from the source commit distribution line item.

- **Current Scheduled Value**
This field is read-only, and the value is auto-populated by the system (regardless of the Cost Line Item type (uuu_cost_li_type)). The value of this field can be updated when modifying an existing line is from an SOV sheet.
- **Change Quantity**
This field is read-only if the Cost Line Item type (uuu_cost_li_type) of the selected Commit Line Item is Lump Sum. If the Cost Line Item type (uuu_cost_li_type) of the selected Commit Line Item is Unit Cost, you can edit this field and enter the costed quantity.
- **Change Amount**
If the Cost Line Item type (uuu_cost_li_type) of the selected Commit Line Item is Lump Sum, you can edit this field and enter the costed amount. If the Cost Line Item type (uuu_cost_li_type) of the selected Commit Line Item is Unit Cost, the value of this field is calculated by the system as: Change Quantity * Unit Cost.
- **New Schedule Value**
This field is read-only, and the value is auto-populated by the system when modifying an existing line is from an SOV sheet. The value of this field is calculated by the system as: Current Scheduled Value + Change Amount.

CSV Integration

You can use a Comma Separated Values (CSV) file to save Cost Allocation data for Base Commit and Change Commit of Summary Payment Application SOV type.

The Payment Application of Summary Payment Application SOV type supports Record, Line Item, and Cost Allocation creation through CSV integration.

If the payment line items have already been added in the **Standard** tab, importing of the line items through CSV is not permitted.

The "CA" (Cost Allocation) row, in the CSV file, includes the following information about Cost Allocation.

- Cost Code
- Short Description
- Quantity
- Amount

Note

Ensure that all Costed Line Item details are entered in the "CA" row.

Multiple Cost Allocation Line Items can be added to the CSV file by way of multiple CA rows.

If your CSV template contains Cost Allocation details, but the design does not permit entering the Cost breakdown information (that is, the option of Allow Cost Breakdown is unchecked), importing the CSV file will fail and you will receive an error message.

Creating Lump Sum and entering Unit Cost details

The "D" row, in the CSV file, includes the information about Summary Line Item. If the Cost Line Item type is Unit Cost type, you must enter the Unit Cost in the D row.

Based on the Cost Line Item type specified in the "D" row, the system will check for the presence of required fields for the specified Cost Line Item type.

Change Commit: Adding Line Items to modify committed lines

The CSV template contains a "Reference" field that you can use for adding lines that have already been committed from a reference commit. The system uses the value in the "Reference" field to select a specific row in the committed lines (SOV).

Note

The availability of the "Reference" field depends on the design set in uDesigner. If this field is not present in the Detail Form integration interface, modification of committed lines cannot take place.

The Costed Line Item of the Summary Line Item that needs to be updated will be identified by the value in the "Reference" field and the Cost Code. The "Reference" column label is the label set for "sovlinum" and will appear after the CA column.

After the record creation, all the Costed Line Items belonging to the selected Line Item (Summary Line Item and child Line Item) will be added to the record.

Payment Application

For Payment Application of Summary Payment Application (SPA) SOV type, the "CA" row will have the columns similar to the details row.

Unit Cost

The following additional informational texts are displayed in the exported CSV template:

- Cost Code
- Short Description
- Quantity
- Unit Cost
- Amount

Enter the unit cost value either at "D" or "CA" row but not in both rows. Variable

You can enter the unit cost value either in the "D" row or in the "CA" row but not both. You can create the variable unit cost lines by entering the unit cost in the "CA" row.

Importing the Lump Sum or Unit Cost line items remains as is. The Unit Cost, in the "CA" row is ignored even if the Unit Cost column is seen in the "CA" row, and the cost line item type selected is Lump Sum or Unit Cost.

When importing the line items for Lump Sum and Fixed Unit Cost line items, if the "CA" row has values (based on the cost line item type mentioned in "D" row) the system will check the presence of the required fields.

You can create both the Base Commit and the Change Commit records with the variable unit cost line items. The "CA" row is populated with the variable rates for the Unit Cost column.

In the "D" row (Summary), if the `uuu_li_cost_type` value is entered as "Variable Unit Cost," and you enter the unit cost for the "CA" rows, the variable unit cost line items will be created with `uuu_li_cost_type`, as the "Unit Cost."

If you enter the unit cost value and select cost line item type as "Variable Unit Cost" at summary row "D," you will see the message: Unit Cost is not allowed on summary line for variable unit cost lines.

If the design does not permit cost breakdown (Allow Cost Breakdown is unchecked), and if the CSV Template has cost allocation details, you will see the message: Business Process design does not allow cost allocation.

Change Commit Business Processes

Change commit business processes (BPs) enable you to change the value of a base commit and to also update the SOV created by the contract. This BP is also known as a *change order*. Change commit BPs are designed in uDesigner. For more information, refer to the *Unifier uDesigner User Guide*.

When multiple Base Commit BPs with Payment Applications and corresponding SOVs are included in a project/shell, you can create multiple Change Commit records that update corresponding payment application SOVs.

You can use CSV import to create change commit BPs or to add SOV line items for an existing BP. You can export change commit BP templates at the log level (for header and line item templates with no data exported) and at the record level (for line item templates with SOV data exported). You can then modify the templates and import them to create records (at the log level) or to add line items to an existing record (at the record level).

An **Integration** interface must be defined to support CSV import. If you cannot import the file, contact your administrator.

Also, records can be created and line items added using Integration through Web Services. Integration through Web Services must be coordinated with Oracle Primavera Unifier Consulting Services.

When a Change Commit line item is selected using the Commit Line Item Picker, any data elements (DEs) present in both the SOV Line Picker Log and the Detail Form of the Change Commit, are auto-populated to the Change Commit Detail Form without requiring uDesigner configuration of the auto-population. If the picker value is changed and another line is selected, the auto-populate occurs again, overwriting Detail Form values with values from the new line. However, when the picker is cleared, any values in the auto-populated DEs are not cleared and remain in the form.

When a Change Commit line creates an SOV line, DEs selected for **Show in SOV** in the Base Commit configuration that are also present in the Detail Form (Standard tab) of the Change Commit cause the DE values to populate the column values within the SOV. Additionally, for Change Commit line items where you select an existing line using the Commit Line Item Picker (uuu_sovlinum) to update, the values auto-populate from the SOV. If you update the values of these DEs in the Detail Form, the values are updated in the SOV after the Change Commit reaches the defined terminal step.

Import New Change Commit Records

You can export a CSV template that includes the upper form and detail form fields as columns. These fields include the header fields from the upper form and the line item SOV fields from the detail form, including the detail line item fields defined in Integration.

You can modify the exported CSV template and import it to create the upper form header information and the detail line items for the new business process.

To export a copy of the change commit business process template:

1. Navigate to the change commit business process log.
2. Select **Actions**, and select **Export CSV Template** or **Export Microsoft Excel Template**. Depending on your browser, the template will automatically be downloaded to your computer, or you will be prompted to download it manually.

To modify the exported change commit business process template:

1. Open the exported CSV or Excel file in Microsoft Excel.
2. Enter the business process information into the spreadsheet. Each upper form header record must begin with an "H". Each line item must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- Any line items with the Amount equal to zero will not be imported.
- Use to add new business process records only; not to modify existing business processes.
- All data created through the CSV import is rolled up to the cost sheet
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.

To import the change commit business process template:

1. Navigate to the change commit business process log.
 2. Select **Actions**, and hover over **Import**.
 3. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
 4. Browse to select the file to import, and then select **Next**.
 5. Add any attachments to the import.
 6. Select **Upload** when finished.
- If there are any import errors, you can open the CSV file to view and correct the error. No records are imported if any rows contain an import error.

Import Change Commit Line Items Into a BP

You can export a template that includes the detail form fields as columns for a specific business process. These fields include the detail form line item fields defined in Integration.

You can then modify the exported template and import it to create line items for the business process. The exported template contains SOV record information.

To export the change commit line item template:

If multiple tabs are designed for the line items in the business process, only the data in the Standard tab is exported. For the other tabs, the tab name is included in the exported data for reference, but no data in these tabs is exported. Data from all columns in the Reference Base Commit is exported.

1. Navigate to the change commit business process log.
2. Select **Create** to create a business process.
3. Select a **Reference Base Commit** for the business process. If you do not select a Reference Base Commit, the exported template will not contain data. Data from all columns in the Reference Base Commit is exported.
4. From the **More Actions** menu, select **Export Line Item Template**, and then select **CSV** or **Microsoft Excel**.

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

To modify the change commit line item template:

1. Open the exported CSV or Excel file in Microsoft Excel. The SOV line items are listed.
2. Enter the line item information into the spreadsheet. Each line must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- Any line items with the Amount equal to zero will not be imported.
- Ensure that you are importing the records you want to import. Any line items that you import will be added after any existing line items.
- Use to add new lines only, not to modify existing lines
- All data created through the CSV import is rolled up to the cost sheet
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.

To import the change commit line item template:

1. Navigate to the change commit business process log.
2. Open a business process from the log.
3. Select **Actions**, and hover over **Import**.
4. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
5. Browse to select the file to import, and then select **Next**.
6. Add any attachments to the import.
7. Select **Upload** when finished.
If there are any import errors, you can open the CSV or Excel file to view and correct the error. No records are imported if any rows contain an import error.

Linked Elements for Changed Commit and General Spends SOV Types

The following data elements can be added as linked elements in Change Commit BPs and General Spends BP of SOV Types:

- **uuu_scheduled_value**
Displays the original scheduled value of a Base Commit BP or General Spends BP of SOV type.
- **uuu_commit_remaining_balance**

Displays the remaining balance of a Base Commit BP or a General Spends BP of SOV type

Note

The above data elements can be added to published BP designs also.

For more information regarding each element, refer to the *Unifier Data Reference Guide*.

SOV Summary Payment Applications Sheets and Business Processes

The Summary Payment Applications Schedule of Values (Summary Payment Applications SOV) allows users to allocate cost to line items based on the line item type (Lump Sum or Unit Cost). Use the Summary Payment Applications SOV type in association with *Commit* and *Spends* Business Processes (BPs) that are designed for Summary Payment Applications SOV (SPA SOV) type.

For a given Project/Shell, there can be multiple Payment Application Business Processes of Summary Payment Applications SOV Type.

For *Base Commits* Business Processes (BPs) with SOV type of "Summary Payment Applications," a special behavior line item has been provided to allow you to add further cost distribution details to the line items.

Note

- Cost allocation/distribution can be done only for line items that are in the Standard tab of the *Base Commits* and *Change Commits* BPs of SPA SOV type.
- Although uDesigner supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is *only* supported for decimal or current amount DEs.
- If the sum of costed lines ranges between a -0.01 to 0.01 difference from the originating line item values, the system does not generate an error or prevent the BP record from moving to the next step.

The Standard detail tab of the properties window contains two options:

- Lump Sum
- Cost Unit

Select **Add**, and select the appropriate option. For more information, see the "Cost Distribution Grid log columns" section in [Lump Sum and Unit Cost](#).

The **Summary Payment Applications** sub-node will be available under the **Schedule of Values** node only if a *Base Commits* or *Change Commits* of SOV type Summary Payment Applications is deployed in uDesigner.

The Grid functionality is *not supported* for the *Base Commits* BP with SOV type of "Summary Payment Applications."

When a *Base Commits* BP with SOV type of "Summary Payment Applications" is configured to auto-populate Data Elements on a Payment Application with values from the *Base Commits*, the runtime auto-populate occurs for the:

- Summary lines
- Costed lines

The Audit log, at the record level, captures the Line Item as well as the Costed Line Item changes (taking place through Web Services) for both *Base Commits* and *Change Commits* BPs with SOV type of "Summary Payment Applications." In this case the Event field of the Audit Log for the BP displays "Line Items: Costed Line Item." In other words, any updates that are made to the Costed Line Items, through Update calls, will have the Event as "Costed Line Item" for Costed Line Item changes.

Grid functionality is not supported for *Change Commits* BPs with SOV type of "Summary Payment Applications."

Summary Payment Applications SOV sheet is created when the *Base Commits* BP reaches the terminal step as set in uDesigner.

Note

If a BP has been set up in uDesigner to automatically create a Summary Payment Applications SOV sheet upon the end step, the following procedures are not applicable.

Adding Values to a Summary Payment Applications SOV Sheet

To create a Summary Payment Applications SOV sheet, manually, begin by allocating cost to line items based on the line item type (Lump Sum or Unit Cost).

To allocate cost to line items based on the line item type (Lump Sum or Unit Cost), follow these steps.

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Cost Manager**, select **Schedule of Values**, and then select **Summary Payment Applications**.
3. Select a Base Commit BP (SOV Base Record) that you want to allocate cost to.
4. In the left Navigator, expand the **Logs** grouping node.
5. Select the Base Commit BP that you want to allocate, and select to open the log.
6. Select a record, and from the toolbar select **Open** to open the Base Commit BP form. The Base Commit BP must be Approved before you can allocate.
7. Select **Edit** from the toolbar, and change the Status to **Approved**.
8. Add cost by selecting the **Add** button, located at the lower-left corner of the window, and selecting your cost option (**Lump Sum** or **Unit Cost**).
9. Ensure that the Line Item fields have correct values (Add Cost, Remove Cost, and so on), and when finished select **Close Window**.
10. Select **Finish Editing** from the toolbar, and wait for the process to complete.
11. Go to the Base Commit BP under the Summary Payment Applications grouping node.
12. Find the SOV Base Record that you have added, select the record, and select **Open**.

13. Inspect the fields to ensure that the record has been added.

Note

Some of the column headings are links. If you select these types of column headings, you can view more details about the column.

14. When finished, select **Close Window**.

Summary Payment Applications SOV Sheet window

Use the toolbar to expand, collapse, find, split the screen, and export records.

Note

You can use the menu bar options as an alternative and perform the same operations.

Expand

Allows you to view the Summary and the associated child rows.

Collapse

Allows you to view only the Summary rows. This will be the default view.

Find

Allows you to search the Summary Payment Applications SOV sheet for specific line items. Find will be based on the columns and will have fields of Column, Value, and Search.

Split

Allows you to split the sheet into two sections.

Export

Allows you to export the entire summary sheet along with the costed lines (the line item summary and the associated costed line items). The generated CSV is for information purposes only.

Summary Payment Applications SOV sheet structure (columns)

The columns in the Summary Payment Applications SOV sheet window are based on the SOV structure. The following is a list of the default columns:

- Ref.
- Cost Code
- Code Name
- Cost Line Item Type
- Description

To modify the columns, select **File**, select **Properties** to open the Properties window, and then select the **Options** tab.

Note

The CBS Code and CBS Item fields are read-only and the values are based on the Cost Sheet.

The rows display the summary lines and the associated child rows, within the summary lines.

The grid displays the summary rows (Detail line item) with cost distributed rows, and the child cost rows within a Detail line item appears under the row and indented. All the fields are read-only and the currency is displayed on the right upper-corner of the grid.

The grid also has a Total field, which appears at the bottom of the sheet, that displays the sum of all the lines.

Grid Support in Base Commit and Change Commit

You can enter line items using either a line-item entry form, or the Grid feature. For the Base Commit and Change Commit, you can use the Grid feature to enter line items directly into the item logs.

Note

The Grid feature is best used for short line items.

Grid Support for Base Commit

The toolbar for the Base Commit and Change Commit item logs has the following options:

- Save
- Attach
- Linked Records
- Expand
- Collapse
- Split
- Find
- Close Window

Other Grid functionalities

In the Grid, you can:

- Reverse auto-population
- Auto-population of other fields in the Grid based on the selection of certain fields
- Printing of Line Items (Line Items and Costed Line Items created through the Grid)
- Audit log

Additional Grid Toolbar Options

Upon selecting the Line Items tab of a Business Process record, the Form View is displayed by default. In Form View, the view options are displayed in the toolbar alongside options like Refresh, Print, Search, and Find on Page.

The Line Item list, along with line item Details, Attachments, and Linked Records, is displayed in the right pane.

You can switch to Grid View by selecting the Grid View option in the toolbar. In Grid view, the view options are displayed in the toolbar alongside Refresh, Print, Find on Page, and Expand/Collapse. When a row or cell in the grid is edited, additional toolbar options are available, including: Add, Cancel, Error Check, Save, Print, and Find on Page.

Note

In the Grid view of Line Item tabs, the additional options are applicable to Pending records. Only the Refresh, Print, Find on Page, and Expand/Collapse options are applicable to Approved records and Terminated records.

Other Elements of Line Items and the Grid

The options of Attach and Linked Records are only available for Line Items. If you attempt to add attachments or linked records to a Costed line, an error message is displayed. If a Costed Line Item (Cost allocated Line Item which belongs to a Summary Line Item) is selected, these options are not available.

Before adding attachments or linked records to a line item, you must save the line item.

If a Costed Line Item and a Summary Line Item are selected, you can upload the attachments, or link records, to the Summary Line Item.

If multiple Summary Line Items are selected, and you select Attach, or Linked Records, the system notifies you then an alert will be seen informing user that only one record needs to be selected (this is existing elsewhere in the grid).

The search parameters, in the Find option, are based on the design of the Line Item list, prepared in uDesigner.

Note

The search parameters are not for the Costed Line Items.

Any time you run a search, the Line Item that matches the search parameter is found. In addition to the parent Line Item, the Costed Line Items belonging to that Line Item will be found.

The Grid rows can be expanded.

The Grid columns contain the Cost Allocation columns, and the fields designed in the Detail Form, in uDesigner.

The sorting order is based on the order set in uDesigner. Line items are sorted first, followed by Costed lines.

You can use the Split option to split the view into 2 sections.

By default, the order of the following columns will be fixed:

- Row
- Line No.
- Attachment
- Linked Record
- Cost Line Item Type
- Cost Code
- Cost Name
- Short description
- Item Quantity
- Item Unit Cost
- Amount

Subsequent columns appear in the order that was set in the Detail Form, during the design.

Note

The system uses the Row number to display an error messages.

The column names are based on the Data Element (DE) labels specified in the Data Structure setup. Cost Code and Cost Name columns have fixed labels and cannot be changed.

The first column (*gear menu* ) provides the following options:

- Insert Line Item
- Insert Multiple Line Items
- Insert Costed Line Items
- Add Remaining
- Copy
- Paste
- Remove
 - In the Remove *gear menu*, the following message is displayed when the action is triggered: “Are you sure you want to remove the selected Line Items and all the associated Costed Line Items?”

Effect of uDesigner on Gear Menus

The options on the corresponding uDesigner Upper form affect the toolbar and *gear menus* () when a line item and a Costed line are selected in the Grid view. The table below indicates the effects of the uDesigner options.

uDesigner Upper form options	Toolbar and Gear menus seen at runtime when a line item is selected	Gear menus seen at runtime when a Costed line is selected
Allow Add/Remove/Copy line items option checked Allow Cost Breakdown unchecked	Toolbar Add option is seen Gear menus Insert Line Item with submenu options of Lump Sum and Unit Cost Insert Multiple Line Items with submenu options of Lump Sum and Unit cost Copy-To make an exact copy of the line item Remove-To remove a line item	Gear menus No actions in the <i>gear menu</i>
Allow Add/Remove/Copy line items option unchecked Allow Cost Breakdown unchecked	Toolbar Add option is not seen Gear menus No actions in the <i>gear menu</i>	Gear menus No actions in the <i>gear menu</i>
Allow Add/Remove/Copy line items option checked Allow Modification of Line Item checked with Allow Cost Breakdown unchecked	Toolbar Add option is seen Gear menus Insert Line Item with submenu options of Lump Sum and Unit Cost Insert Multiple Line Items with submenu options of Lump Sum and Unit cost Copy-To make an exact copy of the line item Remove-To remove a line item	Gear menus No actions in the <i>gear menu</i>
Allow Add/Remove/Copy line items option unchecked Allow Modification of Line Item checked with Allow Cost Breakdown unchecked	Toolbar Add option is not seen Gear menus No actions in the <i>gear menu</i>	Gear menus No actions in the <i>gear menu</i>
Allow Add/Remove/Copy line items option unchecked Allow Cost Breakdown checked	Toolbar Add option is not seen Gear menus Insert Costed Line Items-To add cost break down to a line item Add Remaining-To add a costed line which will have the Amount field=Non-Costed Amount - Costed Amount. This option will not be seen when the Costed Amount=Amount in the Costed lines Copy-To make an exact copy of the line item Remove-To remove a line item and its costed lines	Gear menus Insert Costed Line Items-To add cost break down to a line item Copy-To make an exact copy of the line item Remove-To remove line items

uDesigner Upper form options	Toolbar and Gear menus seen at runtime when a line item is selected	Gear menus seen at runtime when a Costed line is selected
Allow Add/Remove/Copy line items option checked Allow Cost Breakdown checked	Toolbar Add option is seen Gear menus Insert Line Item with submenu options of Lump Sum and Unit Cost Insert Multiple Line Items with submenu options of Lump Sum and Unit cost Insert Costed Line Items-To add cost break down to a line item Add Remaining-To add a costed line which will have the Amount field=Non-Costed Amount - Costed Amount. This option will not be seen when the Costed Amount=Amount in the Costed lines Copy-To make an exact copy of the line item Remove-To remove a line item and its costed lines	Gear menus Insert Costed Line Items-To add cost break down to a line item Copy-To make an exact copy of the line item Remove-To remove line items

Line Items in the Grid

When the Grid is launched for the very first time and no Line Items exist for the BP record:

A blank line (first line) is displayed in the Grid, by default, and the blank line is treated as a Summary Line Item. The `uuu_cost_li_type` field will be set as "Lump Sum" for the Summary Line Items.

Note

The `uuu_cost_li_type` field cannot be blank. It can either be set as "Lump Sum" or "Unit Cost."

If you select the *gear menu* () in the first column of the first line, only these options will be available:

- Insert Line Item
- Insert Multiple Line Items

All other options are disabled.

You can change the default value set in the `uuu_cost_li_type` field to "Unit Cost." The value specified in this field governs whether the other fields can be edited.

When a new Line Item is inserted, the new Line Item will be a Summary Line Item.

You can also add the Summary Line Item by selecting the "Insert Line Item" option from the *gear menu*. The "Insert Line Item" option only lets you add one Line Item.

You can add multiple Summary Line Items by selecting the "Insert Multiple Line Items" option.

If you insert a new row, based on key actions (tab, enter), the inserted new row type will be the same as the previous row.

The line number (1, 2, 3, 4, and so forth) are generated after you select Save.

The "Add Remaining" option is enabled for all Summary Line Items if the:

- "Total Amount" from the Costed Line Items is not = Line Item Amount, in case of Lump Sum
- "Quantity" from the Costed Line Items is not = Line Item Quantity, in case of Unit Cost

When you select the "Insert Multiple Line Items..." option, the Insert Multiple Line Items window appears which allows you to determine the number of Line Items that you want to add.

The total amount row (at the bottom of the Grid) displays the Total Line Item Amount of all the Summary Line Item rows.

Note

The added Line Items are all Summary Line Items and will be populated with Lump Sum as the Cost Line Item Type.

Gear Menus for Summary Line Item

The following explains the functions of the *gear menus* () when you select the Summary Line Item and select the *gear menu* (in the first column).

Option	Enabled/ Disabled	Description
Insert Line Item	Enabled	If you highlight a Summary Line Item and select this option, the system inserts another Summary Line Item row above the highlighted row.
Insert Multiple Line Items	Enabled	If you highlight a Summary Line Item and select this option, the system inserts multiple Summary Line Items.
Insert Costed Line Items	Enabled	If you highlight a Summary Line Item and select this option, you can add Costed Line Items below the highlighted row.

Option	Enabled/ Disabled	Description
Add Remaining	Enabled	If you highlight a Summary Line Item and select this option, the system launches the CBS Picker window. When you select the CBS code, the system adds a Costed Line Item, with the Short Description field auto-populated from the Short Description of the Summary Line Item, and the system calculates the value in the Amount field as Non Costed Amount - Costed Amount. The system inserts these Line Items at the end of the Costed Line Item for that parent/Summary Line Item. This option is disabled when the Costed Amount = Amount in the Costed lines.
Paste	Disabled (until you perform a Copy)	If you highlight a blank row and perform a Paste action, the system inserts the Summary Line Item and the Costed Line Item above the highlighted Line Item. You can also insert the Summary Line Item and the Costed Line Item between Summary Line Item. If you select a Summary Line Item, the system inserts the Summary Line Item above the highlighted row. You cannot perform a Paste action for more than one Costed Line Item. When you perform a Paste action, the system updates the number of each Line Item, after you select Save. When you select Save, the newly pasted Summary Line Items appear at the end of the Line Item list.
Copy	Enabled	If you highlight a Summary Line Item and select this option, you copy the Summary Line Item and the associated Costed Line Items. If you highlight a Summary Line Item and a Costed Line Item, from a set of Costed Line Items, select the <i>gear menu</i>, and select Copy, the Summary Line Item and all the associated Costed Line Items are copied. Example Line 1 has 1.1, 1.2, and 1.3. You select Line 1 and select copy. When you paste, the system inserts Line 1 along with 1.1, 1.2, and 1.3 in the Grid.

Option	Enabled/ Disabled	Description
Remove	Enabled	If you highlight a Summary Line Item and select this option, the Summary Line Item and all the associated Costed Line Items are removed.

Adding and Managing Line Items in Grid View

Adding Line Items in Grid View

Upon selecting the Line Items tab of the record, you can add a Lump Sum item or a Unit Cost item using the Add list.

Fields seen in the grid are based on the detail form design. The editable field cells are bolded while the read-only field cells are italicized. Row numbers for the line items are generated upon saving the grid.

Adding Multiple Line Items in the Grid

After selecting to add multiple line items, a dialog box is displayed where you can specify the number of added line items. When adding these line items, the total number of rows displayed depends on the number indicated in the dialog box.

The Cost Line Item Type for each line item is populated based on the selected submenu option.

Modifying Cost Line Item Types

When an alert window is displayed regarding a change of value for `uuu_cost_li_type`, the rules are applied as listed below:

- If the line item has not been saved and the line item remains in entry mode, no error message is displayed.
- If the summary line item has been saved, a confirmation message is displayed.
 - This indicates that the field values for the Cost Line Item Type are reset.
- If the summary line item has Costed lines, a confirmation message is displayed.
 - This indicates that the field values for both the line item and Costed line are reset.
- If you select, "Yes" in the alert window, system fields dependent on `uuu_cost_li_type` are reset for both the line item and Costed line.

Note

If "Allow Cost Breakdown" is unchecked in uDesigner and Costed lines exist as part of a previous step, changing `uuu_cost_li_type` modifies the Costed lines. This is applicable for Workflow Business Processes.

Handling Errors in the Grid

The handling of errors in this updated grid is similar to other grids. All required field validation errors are displayed with a red circle in their respective fields.

When you select Save or Error Check, form and system-level validations are performed. If any rows on the grid contain errors, the Error Indicator column displays an error.

System-defined Fields for the Summary Line Item

The following explains the function of the system-defined fields in the *Summary Line Item*.

Columns

- The first 10 columns will be fixed as Line No., attachment, link records, uuu_cost_li_type field, Cost Code, Cost Name, Short Description, Item Quantity, Item Unit Cost, and Amount.
- Remaining columns will be as per the detail form design in uDesigner.

uuu_cost_li_type

The uuu_cost_li_type will be a drop down and will have the values of Lump Sum and Unit Cost.

This field is a required field and should be marked with an asterisk. This field cannot be blank and by default will be set as Lump Sum.

The drop-down will have the values of Lump Sum and Unit Cost.

The editing of remaining fields in the grid will be dynamic in nature.

Meaning the uuu_cost_li_type will drive the editable and non-editable fields in the grid.

Note

After the selection has been made, this value should be grayed out post shift of focus. This will be important since this field drives the behavior of other fields.

If the option selected is Lump Sum then:

- uuu_quantity: Disabled (Any auto population and formula definition on this field will not be retained when the LI type is lump sum.)
- uuu_unit_price: Disabled (Any auto population and formula definition on this field will not be retained when the LI type is lump sum.)
- amount: Required.
- Manual or Formula destination. User must type in the amount value. This DE could also be set as formula in uDesigner. Runtime should retain the formula calculation.

If the option selected is Unit Cost then:

- uuu_quantity: Required.
- Manual or Formula destination. User must type in the Quantity value. This DE could also be set as formula in uDesigner. Runtime should retain the formula calculation.
- uuu_unit_price: Required
- Manual or Formula destination. User must type in the unit cost value. This DE could also be set as formula in uDesigner. Runtime should retain the formula calculation.
- amount: Read-only, populated by formula as configured by user in uDesigner. At runtime this field should always be calculated as $uuu\_quantity * uuu\_unit\_price$

If the detail form design does not have the `uuu_quantity` and `uuu_unit_price` fields but user selects the Unit Cost option for `uuu_cost_li_type` then upon shift of focus, an error should be thrown alerting the user that the fields are missing. (Use existing alert currently being thrown when user selects unit cost option in the classic line item Unit Cost option.)

Other System Elements in the Grid

`uuu_costed_amt`

Always read-only. This DE should show value as sum of 'Amount' from all costed lines.

(Note that when `uuu_cost_li_type` = Lump Sum, amount will be entered by user in the cost allocation window. When `uuu_cost_li_type` = Unit Cost, amount will be calculated in the grid by system as Unit Cost*Quantity. Either case, `uuu_costed_amt` in the summary line item will be calculated as sum of 'amount' from all costed lines.)

This field will be displayed only at the summary line item level in the grid.

`uuu_not_costed_amt`

Always read-only, this DE should show value = (amount - `uuu_costed_amount`)

This field will be displayed only at the summary line item level in the grid.

`uuu_costed_qty`

Always read-only. This DE should show value as sum of 'Quantity' from all distributed cost child lines.

(Note that when `uuu_costed_li_type` = Lump Sum, this will be zero. When `uuu_cost_li_type` = Unit Cost, Quantity will be entered by user in the Cost Allocation window. Either case, `uuu_costed_qty` in the summary line item should calculate as sum of 'Quantity' from all costed lines.)

This field will be displayed only at the summary line item level in the grid.

`uuu_not_costed_qty`

Always read-only, this DE should show value = (`uuu_quantity` - `uuu_costed_quantity`). Note that when `uuu_cost_li_type` = Lump Sum, this will calculate as zero.

This field will be displayed only at the summary line item level in the grid.

All other fields designed in the Detail form

User defined fields will be editable in the summary line item and not in the costed lines.

Costed Line Items in the Grid

The option of "Insert Costed Line Items..." allows you to add Costed Line Items for a Line Item. Selecting this option will launch the CBS Picker window. Multiple CBS Codes can be selected.

The number of Costed Line Item inserted depends on the number of codes selected in the CBS Picker window. After you insert the Costed Line Items, along with the CBS codes, you can edit the rest of fields according to the Cost Line Item Type that these Costed Line Items belong to.

Line Numbers for the Costed Line Items follow the parent number (+ 1,2,3,4, and so on).

For example, if the parent line item has a Line No. of 1, the subsequent Costed Line Items have the numbers of 1.1, 1.2, 1.3 and so forth.

Note

- The Summary level cost codes cannot be selected for line items in Cost Business Process records, as this may result in data inaccuracies. Additionally, ensure that summary level cost codes are not associated with cost allocation lines when creating or updating commits of Summary Payment Application records via any method, including UI, REST API, or auto-creation.
- The Line Item numbers are generated after you select Save.

Both the Summary Line Item and the Costed Line Item are indented on the page. The Summary Line Item has the option of Expand and Collapse.

The **Short Description** field is auto-populated from the Short Description field in the parent Line Item.

If you insert a blank Line Item through a key action, and there are no rows after the inserted row in the Grid, the inserted row will be a Costed Line Item. If you want to change the next Line Item to a Summary Line Item, you must insert the Line item by selecting the *gear menu* (⚙️) and selecting **Insert Line Items**. The **Add Remaining** option is disabled for the Costed Line Item.

Gear Menus for Costed Line Item

The following explains the functions of the *gear menus* when you select the Costed Line Item and select the *gear menu* (in the first column).

Option	Enabled/ Disabled	Description
Insert Line Item	Disabled	You cannot add a Summary Line Item when a hierarchical relationship exists between the Costed Line Item and a Summary Line Item.
Insert Multiple Line Items	Disabled	You cannot add a Summary Line Item when a hierarchical relationship exists between the Costed Line Item and a Summary Line Item.
Insert Costed Line Items	Enabled	If you highlight a Costed Line item and select this option, you can add additional Costed Line Items below the highlighted row.
Add Remaining	Disabled	You can only perform this action for Summary Line Items.

Option	Enabled/ Disabled	Description
Paste	Disabled (until you perform a Copy)	You can only paste a copied Summary Line Item. If you copy a Costed Line Item, for example 1.1, from the parent line, for example Line 1, you can paste the copied Costed Line Item under the parent line. After you paste, the new Costed Line Item is inserted below the selected Line Item and renumbering of the Costed Line Items takes place automatically. You can paste Costed Line Items that have the same source and destination.
Copy	Enabled	If you highlight a Costed Line Item and select this option, the highlighted Costed Line Item is copied. You can copy multiple Costed Line Items and insert them below the highlighted/selected Costed Line Item. The Costed Line Items copied must belong to the same Summary Line Item. You cannot copy Costed Line Items that belong to different Summary Line Items.
Remove	Enabled	If you highlight a Costed Line Item and select this option, the Costed Line Item will be removed.

System-defined Fields for the Costed Line Item

The following explains the function of the system-defined fields in the *Costed Line Item*.

Option	Enabled/ Disabled	Description
Cost Code	Always Enabled regardless of the uuu_cost_li_type value	The initial value that is populated in this field is based on the selection that you had made when you selected the Insert Costed Line Items option. You can modify the value later.
Cost Name	Disabled	The value in this field depends on the CBS Code that you had selected.
Short Description	Always enabled regardless of the uuu_cost_li_type value	The initial value that is populated in this field is based on value of the Short Description field of the Summary Line Item. You can modify the value later.
Item Quantity	Enabled only when uuu_cost_li_type = Unit Price	User will be allowed to enter the quantity.
Item Unit Price	Disabled	This field will get populated based on the Item Unit Price value in the Line Item.

Option	Enabled/ Disabled	Description
Amount	Enabled when: uuu_cost_li_type = Lump Sum Disabled when: uuu_cost_li_type = Unit Cost	Amount will be editable when uuu_cost_li_type = Lump Sum. Amount will be derived as Item Quantity* Item Unit Price when uuu_cost_li_type = Unit Cost

Grid Support for Change Commit

Note

Except when noted, other functions of the Change Commit Grid are similar to those for the Base Commit Grid.

The Grid for the Change Commit Business Processes of Summary Payment Application (SPA) SOV type enables you to add:

- Lump Sum
- Unit Cost
- Modify Committed Lines

The first column (*gear menu* ) provides the following options:

- Insert Line Item
- Insert Multiple Line Items
- Insert Costed Line Items
- Modify Committed Line Item
- Add Remaining
- Copy
- Paste
- Remove
 - For the Remove option, the following message is displayed when the action is triggered: "Are you sure you want to remove the selected Line Items and all the associated Costed Line Items?"

Note

The **Modify Committed Line Item** option will be disabled when you select a Costed Line Item.

When you select **Modify Committed Line Item**, the Commit Line Picker window opens. Follow the prompts to select a Commit Line Item from SOV to insert in the Grid.

The columns in the Change Commit grid are similar to the Base Commit grid. Alongside Item Quantity, Item Unit Cost, and Amount are the following new columns:

- Error Indicator
- Attachment
- Linked Record
- Cost Line Item Type
- Cost Name
- Short Description
- Current Quantity
- Current Scheduled Value
- New Scheduled Value

The remainder of the columns display based on the form design established in uDesigner.

Total Amount Row

Similar to a Base Commit grid, a total amount row (at the bottom of the Grid) displays the Total Line Item Amount of all the Summary Line Item rows.

Form Validations

All form level validations at the system and user-defined levels are done after the Save option is selected from the toolbar.

For Lump Sum validations, the Costed Amount must be the same as the Line Item Amount for the Cost Line Item Type.

For Unit Cost validations, the Costed Quantity must be the same as the Line Item Quantity for the Cost Line Item Type.

Selecting and Modifying Line Items

You can use the "Item Quantity" and "Amount" to enter "Change Quantity" and "Change Amount" when modifying the Committed Line Items.

When you select the **Modify Committed Line Item** option, the Committed Line Item Picker window opens to allow you to select the Line Item that you want to modify. The behavior of a line item selection is similar to the one seen when line items are added through selecting the Modify Committed Line option in Form View. You can select any Summary Line Item, from this window. After you select the Line Item, the following occurs:

- The `uuu_cost_li_type` and `uuu_unit_price` fields, when Cost LI type = Unit Cost, are copied from the reference Commit Line Item and transferred into the Change Commit Line Item as read-only fields.
- The `uuu_cost_li_type` and `uuu_unit_price` fields are read-only and cannot be modified because the fields are from the SOV sheet.
- The `short_desc` field is also copied from the reference Commit Line Item and transferred into the Change Commit Line Item.

The following Costed Line Items, below the Commit Line Item, are copied into the Change Commit Line Item:

- The currency field Scheduled Value
- The `bi_item`, `bitemid`, and `short_desc` fields

Note

The fields mentioned above are copied from the source distribution row and transferred into the destination distribution row.

If you select a Costed Line Item instead of a Summary Line Item, and you select Costed Line Item from the Commit Line Item Picker window, you will add the parent Line Item, along with all the child distribution Line Items, into the Change Commit Line Item.

The short description field of the Change Commit Line Item updates the SOV sheet.

Gear Menus for Summary Line Item of Modify Committed Line Item

The following explains the functions of the *gear menus* (⚙️) when you select **Modify Committed Line Item**, select **Summary Line Item**, and select the *gear menu* (in the first column).

Option	Enabled/ Disabled	Description
Insert Line Item	Enabled	If you highlight a Committed Summary Line Item and select this option, the system inserts another Committed Summary Line Item row above the highlighted row.
Insert Multiple Line Items	Enabled	If you highlight a Committed Summary Line Item and select this option, the system inserts multiple Committed Summary Line Items.
Modify Committed Line Item	Enabled	If you highlight a Committed Summary Line Item and select this option, you will launch the Commit Line Item picker, and you can select the Summary Line Item for insertion.
Insert Costed Line Items	Enabled	If you highlight a Committed Summary Line Item and select this option, you can add Costed Line Items below the highlighted row.
Add Remaining	Enabled	If you highlight a Committed Summary Line Item and select this option, the system launches the CBS Picker window. When you select the CBS code, the system adds a Costed Line Item, with the Short Description field auto-populated from the Short Description of the Summary Line Item, and the system calculates the value in the Amount field as Non Costed Amount - Costed Amount. This option is disabled when the Costed Amount = Amount in the Costed lines.
Paste	Disabled (until you perform a Copy)	If you highlight a blank row and perform a Paste action, the system inserts the Committed Summary Line Item and the Costed Line Item above the highlighted Line Item.

Option	Enabled/ Disabled	Description
Copy	Enabled	If you highlight a Committed Summary Line Item and select this option, you copy the Committed Summary Line Item and the associated Costed Line Items.
Remove	Enabled	If you highlight a Committed Summary Line Item and select this option, the Committed Summary Line Item and all the associated Costed Line Items are removed.

Gear Menus for Costed Line item of Modify Committed Line Item

The following explains the functions of the *gear menus* (⚙️) when you select **Modify Committed Line Item**, select **Costed Line Item**, and select the *gear menu* (in the first column).

Option	Enabled/ Disabled	Description
Insert Line Item	Disabled	You cannot add a Summary Line Item when a hierarchical relationship exists between the Costed Line Item and a Committed Summary Line Item.
Insert Multiple Line Items	Disabled	You cannot add a Summary Line Item when a hierarchical relationship exists between the Costed Line Item and a Committed Summary Line Item.
Modify Committed Line Item	Disabled	You cannot add a Committed Summary Line Item from an SOV sheet when a Costed Line Item is highlighted.
Insert Costed Line Items	Enabled	If you highlight a Costed Line item and select this option, you can add additional Costed Line Items below the highlighted row.
Add Remaining	Disabled	You can only perform this action for Committed Summary Line Items.
Paste	Disabled (until you perform a Copy)	You can paste a Costed Line Item within the Summary Line Item. For example, if you copy the Costed Line Item 1.1 from the parent Line 1, the copied Costed Line Item can only be pasted under Line 1. Renumbering of the Costed Line Items occurs automatically. You can paste Costed Line Items that have the same source and destination.

Option	Enabled/ Disabled	Description
Copy	Enabled	If you highlight a Costed Line Item and select this option, the highlighted Costed Line Item is copied. You can copy multiple Costed Line Items and insert them below the highlighted/selected Costed Line Item. The copied Costed Line Items must belong to the same Summary Line Item. You cannot copy Costed Line Items that belong to different Summary Line Items.
Remove	Enabled or Disabled depending on the case	Case 1: A new Costed Line Item that does not exist in the SOV sheet: If you highlight the Costed Line Item and select this option, the Costed Line Item will be removed. Case 2: The Costed Line Item exists in the SOV sheet: This option is disabled if you select a Committed Costed Line Item (the Costed Line Item exists in the SOV sheet).

Column Details Specific to Cost Allocation

The following provides the details specific to the Cost Allocation.

Log Column	Description
Cost Code	Required and editable within the Grid. You can select a Cost Code from the Cost Code Sheet, within the same Shell, by selecting inside the cell. Similar to the Line Items, you can enter a Cost Code in the cell and the system provides the matching Cost Codes for you to choose from. You cannot change the Cost Code of an existing Line Item that originates from an SOV sheet.
Code Name	Read-only. The value in this field is auto-populated by the system according to the Cost Code that you have selected.
Short Description	Editable. The default value in this field is auto-populated by the system according to the Line Item "short_desc" field. You can update/modify the default value.
Current Quantity	Read-only. You can see the column and the values if 1) You select the Modify Reference Commit option and 2) The Commit Line Item = Unit Cost in the Cost Line Item type: <code>uuu_cost_li_type</code> . If the two conditions are satisfied, the system auto-populates the value in this column as "Quantity" (from the source Commit distribution line).
Current Scheduled Value	Read-only. The system displays this column and populates the value (regardless of the <code>uuu_cost_li_type</code>). The value in this column is only populated when you modify an existing Line Item from the SOV sheet.

Log Column	Description
Item Quantity (Change Quantity)	Read-only if <code>uuu_Cost_li_type = Lump Sum</code> . Editable if <code>uuu_cost_li_type = Unit Cost</code> . You can enter the Costed Quantity.
Amount (Change Amount)	Editable if <code>uuu_cost_li_type = Lump Sum</code> . You can enter the Costed Amount. The system calculates the value as "Change Quantity * Unit Cost" if <code>uuu_cost_li_type = Unit Cost</code> . The value of the Unit Cost must be according to the Detail Form (<code>uuu_unit_price</code>). If DE is missing, the value will be zero.
New Schedule Value	Read-only. This column is only populated when you modify an existing Line Item from the SOV sheet. The value is calculated by the system as "Current Schedule Value + Change Amount".

Summary Payment Application Grid Column Total

- Blank
Unifier displays the value as empty in the Total Column (that particular DE column).
- Sum of All Rows
Unifier displays the value as "Sum of All Rows" in the Total Column.
- Use Formula Definition
- Unifier displays the value as "Formula Defined" in the Total Column. In other words, Unifier calculates the formula by using the values from the Total row for the respective DEs.

If the formula was reset to Manual, Unifier resets the Total to "Sum of All Rows."

Unifier calculated the Total, for DEs with predefined formula, as follows:

- %Complete to Date (`uuu_spa_per_comp`)
 - Custom formula
Based on the property selected in uDesigner.
 - System-defined formula
Based on the property selected in uDesigner.
- Amount This period (`uuu_spa_amt_tp`)
Based on the property selected in uDesigner. (Either Blank or Sum of All Rows)

Note

With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.

SOV Summary Payment Application Business Process

In a new payment record, when you navigate to the payment grid and no line items are saved, the system will not calculate the sum of all (SOV) line items for data elements in the upper form.

View Mode

In View Mode, you can use the toolbar to **Reload**, **Print**, **Find**, **Collapse**, and **Expand**.

Field	Description
Add	Lets you add lines. When you select Add, a confirmation dialog will be displayed. After lines have been added, the Add button will be hidden.  Note After lines have been added manually, the payment lines cannot be added through CSV import.
Import	Lets you import lines. After lines have been added, the Import button will be hidden.
Reload	Lets you reload line items.
Print	Lets you print or export the entire summary sheet along with the costed lines (the line item summary and the associated costed line items). The sheet can be exported to CSV or Excel. The generated CSV or Excel sheet is for information purpose only.
Find on Page	Lets you find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.
Collapse	Lets you view only the Summary rows.
Expand	Lets you view the Summary and the associated child rows. This will be the default view.

Field	Description
Summary Payment Applications SOV structure (columns)	The grid columns seen in the classic payment application will be as per the detail form design specified in uDesigner. The grid also has a Total field at the bottom of the sheet that displays the sum of all the lines. Note Although uDesigner supports the inclusion of Pull Down DEs (string or integer) on the payment detail form for use with Auto Population from an SOV Sheet, the Pull Down DE column cannot be added to the SOV Sheet from the SOV Structure. Because of this, the Pull Down DE in a line item cannot auto-populate a value from the SOV Sheet when a classic Payment BP record is created. Auto Population is <i>only</i> supported for decimal or current amount DEs.

Edit Mode

In Edit Mode, you can use the toolbar to **Cancel**, **Error Check**, **Save**, **Find**, **Collapse**, and **Expand**. Additionally, a checkbox option of **Apply line item value of Percentage Complete to Date to Costed Lines** will be visible on the right.

Field	Description
Cancel	Allows you to exit Edit Mode .
Error Check	Allows you to check the sheet for errors.
Save	Allows you to save any changes made to the sheet in Edit Mode .
Collapse	Allows you to view only the Summary rows.
Expand	Allows you to view the Summary and the associated child rows. This will be the default view.

Locking of the Grid

In View and Edit mode, the system will automatically lock the grid after the first 5 columns. To lock another column while viewing or editing data, you can drag the column from the unlocked part of the sheet into the locked part of the sheet. This layout will not be saved into the database.

Total Mismatch Indicator

When the line item field value does not match the sum of costed line values, the line item cell displays a small red triangle to indicate that the totals do not match. When you select the small

triangle, the system displays an information text and informs you of the differences. This is applicable only for the line item.

Note

If the sum of costed lines ranges between a -0.01 to 0.01 difference from the originating line item values, the system does not generate an error or prevent the BP record from moving to the next step.

Multiple Payment Applications

If SOV restrictions are removed and multiple Payment Applications are detected, an Alerts icon will be displayed in the upper-right corner of the window. When you hover over the icon, information about pending payments is presented.

Negative Change Orders

When the Payment Application grid is opened, the line items that will be modified because of a pending Negative Change order will have an Alerts icon in the Scheduled Value cell. You can select the cell to view the details of the Change order. The Pending Change Orders with negative amounts screen will be displayed. The screen will include columns for the Business Process name, Record Number, Line Number, and Amount.

Updating Change Orders

When a change order that refers to the line item from SOV contains data about the change quantity (uuu_quantity) is created, and the quantity gets updated in the SOV sheet, the system will update the quantity changed (uuu_quantity) to the inflight payment record after SOV merge.

Import New Summary Payment Application Records

You can export a CSV or Excel template that includes the upper form and detail form fields as columns. These fields include the header fields from the upper form and the line item SOV fields from the detail form, including the detail line item fields defined in Integration.

You can modify the exported CSV or Excel template and import it to create the upper form header information and the detail line items for the new business process.

To export a copy of the summary payment application business process template:

1. Navigate to the summary payment application business process log.
2. Select **Actions**, and select **Export CSV Template** or **Export Microsoft Excel Template**.

Depending on your browser, the template will automatically be downloaded to your computer, or you will be prompted to download it manually.

To modify the exported summary payment application business process template:

1. Open the exported CSV or Excel file in Microsoft Excel.
2. Enter the business process information into the spreadsheet. Each upper form header record must begin with an "H". Each line item must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- When a data element (DE) is set to auto-populate from a Base Commit, Change Commit, or an SOV, the auto-populated values takes precedence when 0 value is sent for those DEs in CSV, Excel, or REST API. Any value specified in the input request is ignored and the auto-populated values from Base Commit, Change Commit, or SOV will be used.
- Any line items with the Amount equal to zero will not be imported.
- Use to add new business process records only; not to modify existing business processes.
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.

To import the summary payment application business process template:

1. Navigate to the summary payment application business process log.
 2. Select **Actions**, and hover over **Import**.
 3. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
 4. Browse to select the file to import, and then select **Next**.
 5. Add any attachments to the import.
 6. Select **Upload** when finished.
- If there are any import errors, you can open the CSV file to view and correct the error. No records are imported if any rows contain an import error.

Note

If the **Add Only SOV edited line items** option is selected in uDesigner, only the edited line items will be saved when the summary payment application template is imported through CSV, Excel, or RESTful services.

Adding Partial Line Items by way of CSV or Excel import or RESTful web services

When you add partial line items by way of CSV-Excel import or RESTful web services to the Summary Payment Applications BP, the system will add all the other existing SOV lines, along with the line items provided in the CSV-Excel template or RESTful web services input request.

When you are scheduling payments by creating the payment line items by way of CSV or Excel import or RESTful web services, you can add all the payment line items to the grid to prevent data discrepancy in the Schedule of Value (SOV). To be able to prevent data discrepancy in the SOV when the payment record is approved, you can view all the SOV line items that have been added to the payment grid (**Standard** tab):

- When partial line items have been included in the CSV or Excel import or RESTful web services request.
- When the record is created by way of CSV or Excel import or RESTful web services request.
- When the record is created by way of RESTful web services request (**CreateBPRecord**) and partial line items that have been included in the input request.
- When the record is updated by way of RESTful web services request (**UpdateBPRecord**) and partial line items that have been included in the input request, provided that there were no other line items added to the payment grid.

When you create payment applications in the **Payment Items** tab, and you are exporting the record CSV or Excel template (or line item CSV or Excel template):

- If the payment record is created by way of line items or partial line items (using input from the CSV or Excel template), all the existing SOV lines will be added to the payment grid along with imported line items if importing is successful.
- If the payment record is created without line items or partial line items (not using input from the CSV or Excel template), the system will not add any line items or partial line items to the payment grid.
- If the payment record is created by way of adding all the payment line items (using input from the CSV or Excel template), all the line items will be added to payment grid, when the import is successful.

Oracle recommends that you should set the DD value as default, or define the auto-population, when the payment detail form has "required" string DEs, such as a short description. If the "required" string DE does not include any value, the CSV or Excel import or RESTful web services request will fail because the system will add all the existing line items from SOV into the payment grid. In this scenario, the system will generate an error email for record creation, or the system will generate an error message, in the imported CSV template, for line item creation.

The system will validate when you add payment line items (by way of CSV or Excel import or RESTful web services request) to the SOV line items even if partial line items have been added, previously.

Note

The existing process will remain as is for CSV or Excel import or RESTful web services request of line items in non-standard tabs, within the Summary Payment Applications SOV BPs.

When you export the record, or line item, CSV or Excel template, the template will display the following information: "The system will add existing SOV lines into the payment grid when importing partial line items."

Import Summary Payment Application Line Items Into a BP

You can export a template that includes the detail form fields as columns for a specific business process. These fields include the detail form line item fields defined in Integration.

You can then modify the exported template and import it to create new line items for the business process. The exported template contains SOV record information.

When importing Summary Payment line items for Payment Applications BPs, the system uses the values that the user provided for the auto-populate data elements, if the fields were editable originally; otherwise, the system uses the values that are from Base Commit line items or Change Commit line items.

To export the summary payment application line item template:

If multiple tabs are designed for the line items in the business process, only the data in the Standard tab is exported. For the other tabs, the tab name is included in the exported data for reference, but no data in these tabs is exported. Data from all columns in the Reference Base Commit is exported.

1. Navigate to the summary payment application business process log.
2. Select **Create** to create a new business process.
3. Select a **Reference Base Commit** for the business process. If you do not select a Reference Base Commit, the exported template will not contain data. Data from all columns in the Reference Base Commit is exported.
4. From the **More Actions** menu, select **Export Line Item Template**, and then select **CSV** or **Microsoft Excel**.

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

To modify the summary payment application line item template:

1. Open the exported CSV or Excel file in Microsoft Excel. The SOV line items are listed.
2. Enter the line item information into the spreadsheet. Each line must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Note

- Data for formula-based columns is ignored.
- If auto-populated data is provided, the system will import the value, and will not override the imported values except for fields auto-populated by Base Commit, Change Commit, or from SOV.
- When a data element (DE) is set to auto-populate from a Base Commit, Change Commit, or an SOV, the auto-populated values takes precedence when 0 value is sent for those DEs in CSV, Excel, or REST API. Any value specified in the input request is ignored and the auto-populated values from Base Commit, Change Commit, or SOV will be used.
- Any line items with the Amount equal to zero will not be imported.
- Ensure that you are importing the records you want to import. Any line items that you import will be added after any existing line items.
- Use to add new lines only, not to modify existing lines
- All data created through the CSV import is rolled up to the cost sheet
- For data to import correctly, you might have to change some of the cells in the CSV file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.

To import the summary payment application line item template:

1. Navigate to the summary payment application business process log.
2. Open a business process from the log.
3. Select **Actions**, and hover over **Import**.
4. Select either **Data From CSV File** or **Data From Microsoft Excel File**.
5. Browse to select the file to import, and then select **Next**.
6. Add any attachments to the import.
7. Select **Upload** when finished.

If there are any import errors, you can open the CSV or Excel file to view and correct the error. No records are imported if any rows contain an import error.

Adding Partial Line Items by way of CSV or Excel import or RESTful web services

When you add partial line items by way of CSV-Excel import or RESTful web services to the Summary Payment Applications BP, the system will add all the other existing SOV lines, along with the line items provided in the CSV-Excel template or RESTful web services input request.

When you are scheduling payments by creating the payment line items by way of CSV or Excel import or RESTful web services, you can add all the payment line items to the grid to prevent data discrepancy in the Schedule of Value (SOV). To be able to prevent data discrepancy in the SOV when the payment record is approved, you can view all the SOV line items that have been added to the payment grid (**Standard** tab):

- When partial line items have been included in the CSV or Excel import or RESTful web services request.

- When the record is created by way of CSV or Excel import or RESTful web services request.
- When the record is created by way of RESTful web services request (**CreateBPRecord**) and partial line items that have been included in the input request.
- When the record is updated by way of RESTful web services request (**UpdateBPRecord**) and partial line items that have been included in the input request, provided that there were no other line items added to the payment grid.

When you create payment applications in the **Payment Items** tab, and you are exporting the record CSV or Excel template (or line item CSV or Excel template):

- If the payment record is created by way of line items or partial line items (using input from the CSV or Excel template), all the existing SOV lines will be added to the payment grid along with imported line items if importing is successful.
- If the payment record is created without line items or partial line items (not using input from the CSV or Excel template), the system will not add any line items or partial line items to the payment grid.
- If the payment record is created by way of adding all the payment line items (using input from the CSV or Excel template), all the line items will be added to payment grid, when the import is successful.

Oracle recommends that you should set the DD value as default, or define the auto-population, when the payment detail form has "required" string DEs, such as a short description. If the "required" string DE does not include any value, the CSV or Excel import or RESTful web services request will fail because the system will add all the existing line items from SOV into the payment grid. In this scenario, the system will generate an error email for record creation, or the system will generate an error message, in the imported CSV template, for line item creation.

The system will validate when you add payment line items (by way of CSV or Excel import or RESTful web services request) to the SOV line items even if partial line items have been added, previously.

Note

The existing process will remain as is for CSV or Excel import or RESTful web services request of line items in non-standard tabs, within the Summary Payment Applications SOV BPs.

When you export the record, or line item, CSV or Excel template, the template will display the following information: "The system will add existing SOV lines into the payment grid when importing partial line items."

Overpayment in Summary Payment Applications SOV

The Data Element (DE) `uuu_spa_per_comp` (Percentage Complete to Date) is required on the detail form of a Summary Payment Applications type Payment Application business process.

You can enter values in the detail form (grid) (for `uuu_spa_per_comp` (Percentage Complete to Date)) that is above 100 percent.

In the Summary Payment Application SOV structure, you can add a column with Datasource = **Commits Remaining Balance**.

If the **Commits Remaining Balance** column has not been added to the SOV structure, you will have the ability to overpay (assign a payment amount that exceeds the remaining balance and the `uuu_spa_per_comp` value exceeds 100%).

If the **Commits Remaining Balance** column has been added to the SOV structure, you will not have the ability to overpay (you will not be allowed to assign a payment amount that exceeds the remaining balance or to make the `uuu_spa_per_comp` greater than 100), and the system displays a detailed message notifying you that the payment amount exceeds the remaining reference commit balance.

Base Commit SOV Type

Create New Base Contract Summary Payment Application

Based on the upper form properties, designed in uDesigner, if the add, copy, and remove lineitems options are checked, you can select **Add** and create a line item from the **Standard** tab, in the **Create New Base Contract Summary Pay App** window. The following options will be made available when you select **Add**:

- **Lump Sum**

Enables you to create line items with lump sum amount defined at the summary line item and at the cost breakdown level.

When you select **Lump Sum**, the summary line item and cost breakdown creation are set. The amount data element in the summary line item will be editable and any formulas defined on the amount data element will be retained. The `uuu_quantity` and `uuu_unit_price` will be disabled. The cost line item type for this type of line item will be lump sum. For the lump sum cost breakdowns, the `uuu_amount` data element will be editable. You can add the cost breakdowns with the amounts when the "allow cost breakdown" is configured, in uDesigner.

- **Unit Cost**

Enables you to create line items with fixed unit rate defined at summary line item and cost breakdowns that were added. The system will use the same unit rate to calculate the line item amount.

When you select **Unit Cost**, the summary line item will have `uuu_quantity` and `uuu_unit_price` data elements as editable fields. The summary line item can be set as formula, in uDesigner. The Amount field will be read-only and always calculated based on the formula configured in uDesigner.

When adding cost break downs, you can enter the CBS Code, a short description, and the `uuu_quantity` data element. The `uuu_unit_price`, for each break own line, will be read-only and is populated with the value from summary line. The Amount field, for each cost breakdown, will be calculated based on the formula: quantity * unit price. The Cost Line Item Type will be displayed as **Unit Cost** in the line item.

- **Variable Unit Cost**

Enables you to define a variable unit rate at cost breakdowns. The line item amount is calculated based on the variable unit rate.

When you select Variable Unit Cost, the summary line item will have the `uuu_quantity` and amount data elements editable, but the `uuu_unit_price` data element will be disabled and read-only. The Cost Line Item Type will be displayed as Variable Unit Cost in the line item. The following describes the data elements on the summary line item when the **Variable Unit Cost** is selected:

`uuu_quantity`

The `uuu_quantity` is an editable and required field. It can be set for either a manual or formula destination. The `uuu_quantity` DE can be set as formula, or it can be set as auto-populate, in uDesigner. The auto-population or formula will work in user mode (at runtime).

`uuu_unit_price`

The `uuu_unit_price` is a disabled field. The formula or auto-populate design does not work for the Variable Unit Cost line item.

`amount`

The `amount` is an editable and required field. It can be set for either a manual or formula destination. The `amount` DE can be set as auto-populate, in uDesigner. The auto-population or formula will work in user mode (at runtime).

In the Variable Unit Cost, the data element `uuu_costed_amount` (in the upper section of the line item) will be calculated as sum of the `amount` (from all cost breakdowns). The `uuu_non_costed` amount will be calculated as $(\text{amount} - \text{uuu\_costed\_amount})$. The `amount`, in this case, is the line item amount. Similarly, the data element `uuu_costed_quantity` (in the line item) will be calculated as sum of quantity entered in all cost breakdown. In the `uuu_non_costed_quantity` DE, the data element `uuu_costed_quantity`, will be calculated as: $\text{uuu\_quantity} - \text{uuu\_costed\_quantity}$.

Regardless of the Line Item type, the right pane displays the Line Item and Cost Breakdown options.

Note

The availability of the Cost Breakdown options of Add Cost and Add Remaining is per uDesigner design. If the Business Process form does not permit cost breakdown, these options will not be available.

- **Cancel**
- **Save**
- **Save & Add New**

When you select **Save & Add New**, the Line Item type displayed will be based on the last cost line item type selected. As a result, if you select Add, select Lump Sum, and then save the Line Item and continue to select **Save & Add New**, the new Line Item will be of Lump Sum type.

On the right pane:

The Line Item option contains fields that have been designed in uDesigner, and the fields are similar to those in other Business Processes with the Standard user interface.

The Cost Breakdown option enables you to open a grid that contains fields related to the Cost Line Item type such as the number, cost code, and so on.

Use the Add Cost and Add Remaining toolbar options to add your cost or the remainder of the cost.

The "Not Costed Amount" (for Lump Sum) and "Not Costed Quantity" (for Unit Cost) options are also available.

Cost Breakdown option (Adding costed lines)

When you select the plus (+) icon, the system launches the CBS picker, and you can select one or more codes and add the codes to the grid.

Note

The Summary level cost codes cannot be selected for line items in Cost Business Process records, as this may result in data inaccuracies. Additionally, ensure that summary level cost codes are not associated with cost allocation lines when creating or updating commits of Summary Payment Application records via any method, including UI, REST API, or auto-creation.

The *gear menu* () is available when you select a single line item or multiple line items, and it allows you to copy or remove an item.

Note

You can copy multiple costed lines by selecting multiple line items, select the *gear menu*, and select Copy.

Errors

In case of errors in Line Items, the system displays a detailed report inline (Error Location and Description). The system displays all form level validation errors and required field errors at the record level error location.

In case of errors in Cost Breakdown, the system populates an error column that contains the error indication followed by a message.

Add Cost

In the Line Item Details tab, the Cost BreakDown tab, the add cost(+) option will be enabled if in the upper form properties the Allow Cost Breakdown option is selected in uDesigner.

When you select the add cost option, in the Cost BreakDown tab, the CBS picker will be shown so you can select a single or multiple CBS codes to add their breakdowns. In the cost breakdown line:

Cost Code and Code Name

The Cost Code is editable and the default value will be populated from selected code in the CBS picker. You can double-click and modify the cost code. The Code Name is read-only and populated by cost code selection.

Short Description

The Short Description is editable. By default, the Short Description data element is populated from the value of the summary line item short_desc field. You can edit and modify the field.

uuu_unit_price and uuu_quantity

The uuu_unit_price and uuu_quantity DEs are editable and available for you to enter the values.

uuu_amount

The uuu_amount, in cost breakdown, will be calculated as $uuu\_unit\_price * uuu\_quantity$.

Not Costed Quantity and Non Costed Amount

The Not Costed Quantity and Non Costed Amount will be calculated and displayed on the top of the costed lines.

Total Amount

The Total Amount for all costed lines is displayed.

uuu_costed_amount and uuu_costed_quantity

The uuu_costed_amount and uuu_costed_quantity, in the summary line item, will be calculated as the sum of amount and quantity from the costed lines.

Remove Cost

You can remove one or more cost breakdowns by using the Remove option (*gear menu*). When the selected cost breakdowns are removed, the total amount of the costed lines will be updated. The uuu_non_costed_amount and uuu_non_costed_quantity will be recalculated accordingly.

Copy Cost

You can copy one or more cost breakdowns by using the Copy option (*gear menu*). For copied costed lines, besides the CBS code, the quantity unit cost and the amount will be copied.

Adding Variable Unit Cost lines by using the grid

You can add Variable Unit Cost line items in the grid view. Select Insert Line Item and select the Variable Unit Cost option (similar to the form view). When you select the Insert Line Item, the following options will be available, based on the form properties

- **Lump Sum**
- **Unit Cost**
- **Variable Unit Cost**

The Cost Line Item Type is set as "Variable Unit Cost" in the line item, when the Variable Unit Cost option is selected.

The behavior of data elements uuu_quantity, uuu_unit_price and amount in the Variable Unit Cost lines will be similar to the cost lines created from the form view. The uuu_unit_price DE, in the cost breakdowns, will be editable, and you can specify the variable rates for each costed line. The amount for each cost breakdown will be calculated based on the unit rate specified. Accordingly, both the uuu_costed_amount DE and uuu_noncosted_amount DE will be calculated.

In unit cost lines, the uuu_unit_price DE will be editable only on the summary line and read-only in cost breakdowns.

After the base contract record, which has the line items of both fixed and variable unit cost, reaches the terminal step, the SOV will be created. The variable unit rates provided in the cost breakdowns will be rolled up to SOV along with quantity and amount.

The following table explains how the line item consolidation of the **Variable Unit Cost** lines takes place:

Source Business Process	Destination Business Process	Expected Results	What If Scenarios
Generic Cost BP of CBS type and Non-SPA BP with the line items having cost (Non-SPA) selected as variable unit cost type.	Change Commit BP Summary Payment Applications SOV BP (SPA commits)	Copy the line item from the source. In the destination record, the summary line item will be created and cost line item type is populated as variable unit cost type. Cost breakdown will be created if the source line item has CBS Code defined. If the source BP is a CBS cost type, and the line items are consolidated from the standard source, both the summary and the costed line items will be created and data will be populated as follows: - The summary line item will have both the <code>uuu_quantity</code> and the amount populated. In this case, the <code>uuu_unit_price</code> will be disabled and no value should be populated from the source. - The cost breakdown will have the CBS Code, description, <code>uuu_quantity</code>, <code>uuu_unit_price</code>, and the amount populated.	If the line items are consolidated from the non-standard tab and CBS Code is not part of the source line item, only the summary line item will be created with <code>uuu_quantity</code> and the amount populated. If the source BP is a line item type, only the summary line item will be copied into the destination. The summary line item will have both the <code>uuu_quantity</code> and the amount populated. In this case, the <code>uuu_unit_price</code> will be disabled and no value should be populated from the source.
SPA commits and change commits type BPs with variable unit cost line items.	Generic Cost BP of CBS type and Line item type BP with the line items having cost line item type selected as variable unit cost type.	Only the summary line item will be copied.	If the destination BP is a CBS cost type, the consolidation will fail because the summary line item will not have CBS codes. If the destination BP is a line item type, using the line item consolidation line items will be copied if all the required fields have values defined. In this case, the short description and the amount are copied in to the destination line item, if it exists.
SPA commits and change commits type BPs with variable unit cost line items.	SPA commits and change commits type BPs with variable unit cost line items.	Both the summary line item and the cost breakdowns will be copied in to the destination.	New summary line items will be created (with all their cost break downs) in the destination record.

Linked Elements for All SOV Types Except Summary Payment SOV Type

If you set up Base Commit BPs with the following options:

- Select **Sub-Type** as *Line Items with CBS Code*
- Enable **Create SOV**
- Select any **SOV Type** except Summary payment SOV type

the following data elements can be added as linked elements:

- **uuu_scheduled_value**
Displays the original scheduled value of a Base Commit BP or General Spends BP of SOV type.
- **uuu_commit_remaining_balance**
Displays the remaining balance of a Base Commit BP or a General Spends BP of SOV type

Note

The above data elements can be added to published BP designs also.

For more information regarding each element, refer to the *Unifier Data Reference Guide*.

Change Commit Summary Payment Application SOV Type

Create a Change Order with Summary Payment Application

Based on the upper form properties, designed in uDesigner, if the add, copy, and remove line items options are checked, you can select **Add** and create a line item from the **Standard** tab, in the **Create New Change Order with Summary Pay App** business process window. The following options will be made available when you select **Add** and when a referenced Base Commit has "Allow Variable Unit Cost in Cost Breakdown" is selected in uDesigner:

- **Lump Sum**
- **Unit Cost**
- **Variable Unit Cost**
- **Modify Committed Line Item**

For Summary Payment Application SOV type business processes, the Amount field can be either editable or read-only based on the following conditions:

- If you add a Lump Sum type line item to a BP, the system will ignore the existing formula of the Amount field.
- If you add a Unit Cost type line item to a BP, the system will retain the existing formula of the Amount field.

The cost breakdown of Lump Sum and Unit Cost is similar to the Base Commit Summary Payment Application SOV type BP (cost), explained in the previous section.

The summary and costed line item behavior for the first three options selected will be similar to Base Commit Summary Payment Application SOV type Business Process records with checkbox selected in uDesigner.

For the **Variable Unit Cost** line items, you are allowed to enter the `uuu_unit_price` for each cost breakdown. The amount will be calculated based on the unit rate and the quantity entered. The summary line item will have the `uuu_unit_price` disabled.

When you select the **Modify Committed Line Item** option, the **Commit Line Item Picker** window will be displayed. This window enables you to select and modify any line item from the picker. The cost line item type for the unit cost lines will be the **Unit Cost**; whereas, for the variable unit cost lines, the cost line item type will be the **Variable Unit Cost**.

When you select **Save & Add New** option, the system displays the Line Item type based on the last cost line item type that was selected. As a result, if you select Add, select Lump Sum, and then save the Line Item and continue to select Save & Add new, the new Line Item will be of Lump Sum type.

When you select **Modify Committed Line Item** option, and then select **Save & Add new**, the system launches the SOV picker.

Commit Line Item Picker

Note

The fields displayed vary based on the line item selected from the Commit Line Item Picker

The Cost Break down field, when you select a committed line:

- Committed line = Lump Sum, the field seen will be "Not Costed Amount."
- Committed line = Unit Cost, the field seen will be "Not Costed Quantity."

The grid columns are always dependent on line item creation.

Note

Grouping of line items through CSV is not supported for SPA BPs.

When you select the line item of type "Variable Unit Cost," the data element `uuu_cost_li_type` is copied over from the reference commit line item into the Change Commit line item and will be set as read-only.

The `uuu_quantity` and amount data elements, in the summary line item are editable. The `uuu_unit_price` DE will be disabled for the summary line item.

If the selected line item has variable unit rates at costed lines, an additional column (`uuu_unit_price`) will be seen in cost breakdowns that is copied over from the SOV.

The following columns will be in cost breakdowns in the Commit Line Item Picker, for the costed lines that are copied from SOV:

Cost Code

The Cost Code is a read-only field, and the value gets populated from the Commit Line Item Picker (for the SOV referenced lines). For the new costed lines, the Cost Code field can be edited, and it can pick from the CBS picker.

Code Name

The Code Name is a read-only field, and the value gets populated from the Cost Code selection.

Short Description

The Short Description is an editable field. By default, the value for this data element gets populated from the summary line item short_desc field.

Current Quantity

The Current Quantity column is read-only, and the value for the existing lines will be copied from the selected commit record. For the new costed lines that are added, this column will be empty and read-only.

Unit Cost

The Unit Cost column is read-only, and it displays the uuu_unit_price value that is coming from the selected commit record. For new costed lines added, this column will be empty and editable.

Current Scheduled Value

The Current Scheduled Value column is read-only, and it gets populated with the scheduled value from the SOV for the existing costed lines. For the new costed lines, this column will be 0 and will be read-only.

Change Quantity

The Change Quantity column is editable and you can enter the values for existing and new costed lines.

Change Amount

The Change Amount column is read-only, and the value is populated based on the calculation: Change Quantity * Current Unit Cost.

New Scheduled Value

The New Scheduled Value column is read-only, and the value gets calculated as: Current Scheduled Value + Change Amount.

In the Commit Line Item Picker, you can:

- Add new costed lines
- Copy existing costed lines
- Remove newly added costed lines

The In the Commit Line Item Picker toolbar options that are available in the Cost Breakdown tab (for the Commit Line Item) are:

Add Cost

When you select this option, the CBS picker is displayed so you can select single or multiple CBS codes to add the breakdowns. In the cost breakdown line, the following columns are displayed:

Cost Code

Editable field with value populated from the selected code, in the CBS picker. You can double-click the field and modify the value.

Note

The Summary level cost codes cannot be selected for line items in Cost Business Process records, as this may result in data inaccuracies. Additionally, ensure that summary level cost codes are not associated with cost allocation lines when creating or updating commits of Summary Payment Application records via any method, including UI, REST API, or auto-creation.

Code Name

Read-only field with value populated from the selected cost code.

Short Description

Editable field with value populated from the summary line item short_desc field.

Current Quantity

For the new costed lines added, the Current Quantity column value will be empty and read-only.

Unit Cost

For the new costed lines added, the Unit Cost column value will be empty and read-only.

Current Scheduled Value

For the new costed lines added, the Unit Cost column value will be 0 and cannot be edited.

Change Quantity

This column is editable and you can enter the values for new costed lines.

Change Amount

This column is read-only and the value is populated based on calculation: Change Quantity * Current Unit Cost.

New Scheduled Value

This column is read-only and is calculated as: Current Scheduled Value + Change Amount.

The *gear menu* () options available for the costed lines are as follows:

Note

You cannot remove the existing line items that are coming from the SOV.

Copy

If you select an existing line item and select Copy, you will copy the costed line item. The current scheduled value will not be copied. Only the unit cost and change quantity columns are editable. The new scheduled value will be calculated based on the: change amount + current scheduled value.

You can copy multiple costed line items at the same time. All these line items must belong to the same summary line item.

You cannot pick costed lines from different summary line items.

Remove

If you select a new costed line item, by selecting this option you will remove the costed line item.

For the committed costed line item (line items coming from the SOV), the Remove option is not available.

After the Change Commit record is routed to the terminal step, the SOV will be updated with both the modified quantity and the new scheduled value, for costed lines that exist in the SOV .

The variable unit rates that are provided in the cost breakdowns will be rolled up to the SOV, along with the quantity and amount for new lines.

Totaling Cost Breakdown Values

This section explains the following topics:

① Note

The following applies when the **Total the Cost Breakdown values to the line item** option is checked in the form. To access this option, go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select **uDesigner**, and then select **Business Processes**; open **Payment Applications**; in the left Navigator, select **Upper Forms**; select the applicable Form; from the toolbar, select **Properties**, select the **Options** tab, and check the option in the **Line Items** block.

- **Totaling Cost Breakdown to the Line Item**
Totaling cost breakdown values to the line item
- **Totaling Line Item in Payment Application**
Totaling the line in the Payment grid of Payment Application
- **Totaling Line Item in Summary Payment Application**
Totaling the line in the Payment grid of the Summary Payment Application
- **Line Item and Sum of Costed Line**
When the line item field value does not match the sum of costed line values
- **Summary Line item**
- **Summary Row Totals**
 - Summary total
 - Line item total

① Note

If the sum of costed lines ranges between a -0.01 to 0.01 difference from the originating line item values, the system does not generate an error or prevent the BP record from moving to the next step.

Totaling Cost Breakdown to the Line Item

The totaling cost breakdown to the line item can be done for:

- Line items with editable numeric data element columns (line item and costed lines)
- Line items with editable numeric data element columns (line item and costed lines)
- Line items with cells that are based on formula
- Line items with cells that are percentages

The following explains each option.

Line items with editable numeric data element columns (line item and costed lines)

You can see the sum of all the costed line item values after entering the pertinent values in the editable fields (line item and costed lines). That is, when you enter values in the costed line items, the system sums up those values and displays the resulting value in the corresponding cell of the line item.

Example

Contracts with Cost Break down

Enter the costed line item information in the "Other Amount this Period" field. After you select elsewhere, the system displays the sum total of the costed line item values in the "Other Amount this Period" field of the line item.

Line items with editable numeric data element columns (line item and costed lines)

If the fields are read-only, there are not summations.

Line items with cells that are based on formula

When the line item cell has a formula definition, the sum (roll up) for the cell in the line item is not generated from the costed line items. The calculation for this cell is based on the line item values.

Example

"Completed and Stored to Date" is a formula field = Total Previous Payments <uuu_spa_prev_amt> + Requested this Period <spz_total_tp> + Stored Materials Amount <uuu_spa_mat_stored>. As a result, the cell value for "Completed and Stored to Date" in the line item = Total Previous Payments <uuu_spa_prev_amt> + Requested this Period <spz_total_tp> + Stored Materials Amount <uuu_spa_mat_stored>.

During runtime, the system Data Element (DE) uuu_spa_prev_amt, on a Summary Payment Applications detail form, is calculated by the system as the sum of following (from SOV):

- The uuu_spa_prev_amt, and
- The data element selected in uDesigner option "Total Previous Payments = Total Previous Payments + ..."

By default, uDesigner selects the "Amount" field from the system detail form in this option and the formula for uuu_spa_prev_amt equals the sum of:

- The uuu_spa_prev_amt from SOV, and
- The amount from the SOV.

If the user selects some other option in uDesigner, for example, the data element "Amount Requested this Period," then the formula for this field would become:

- The uuu_spa_prev_amt from SOV, and

- The amount Requested This Period from SOV

Line items with cells that are percentages

System-defined uuu fields and user-defined custom formula fields, which are treated as percentages field and set as formulas, do not sum up the values from the costed lines to the line item.

Totaling Line Item in Payment Application

The Total row, at the bottom of grid, displays the total for payment lines (costed line items) when the values are:

- Manually entered
- Formula based
- Percentages

In the total Row, all the numeric columns display the total of the Summary Line items.

Note

With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.

Totaling Line Item in Summary Payment Application

In the Total Row, the manual data element columns display the total of the Summary line item values.

The calculation in the Total Row is applicable for both Payment Application and Summary Payment Application.

Note

With version 23 and later, a Total row on a non-standard tab of a line item grid is not displayed. For version 22 and earlier, the Total row displays a 0.

Line Item and Sum of Costed Line

When the line item field value does not match the sum of costed line values:

For fields that are editable, the line item cell displays a small triangle to indicate that the totals do not match.

Note

The small triangle is displayed based on the selection that has been made in the Upper Form option "Costed line item total must be equal to the line item total". If the checkbox for **Costed line item total must be equal to the line item total** is *unchecked*, the red triangle does not display. If the checkbox for **Costed line item total must be equal to the line item total** is *checked*, the Data Element is configured to show the **Summary Total** as **Sum of All Rows** (there is a total mismatch), and the red triangle is displayed.

When the user selects the small triangle, the system displays an information text and informs the user about the differences. This is applicable only for the line item.

Note

The alert is not displayed for `uuu_spa_per_comp` field because the field values of costed lines and summary lines will always have a discrepancy.

Summary Line Item

The (Summary) Line item row is gray when the line is not editable.

The (Summary) Line item row is editable if the row is displayed:

- In bold font.
- With thick borders.

To be able to modify Line Items, you must select the "**Allow Modification of Line Items**" option in the **Creation** step.

You can define whether or not you want the value of the Data Element (DE) `uuu_spa_per_comp` (from summary row) to apply to all costed lines (in a summary Payment Application grid) automatically. This enables you to avoid filling each costed line value manually and have a better user experience.

If the **Allow viewing of Costed line items** and **Allow Modification of line item** options are selected (checked) in the Upper Form of a Payment Application type BP (which references a Base Commit of SOV Type = Summary Payment Applications) in uDesigner, the runtime SPA grid provides an **Apply line item value of <label of DE uuu_spa_per_comp> to costed lines** checkbox (in the upper-right corner of the grid) to enable you to apply the line item value to costed lines.

When you select the **Apply line item value of <label of DE uuu_spa_per_comp> to costed lines** checkbox, the system copies the value of the data element `uuu_spa_per_comp` (from the summary lines) into the corresponding costed lines. The subsequent impact on fields `uuu_spa_amt_tp` / `uuu_spa_qty_tp` in the costed lines is similar to just as if you made a manual edit of `uuu_spa_per_comp` in the costed lines to trigger the update of these fields.

To proceed, select the **Apply line item value of <label of DE uuu_spa_per_comp> to costed lines** option (at the upper-right corner of the detail form). This selection impacts only those lines that are edited after checking the box, and the existing, or edited, lines will remain as they were.

If the **Apply line item value of Percentage Complete to Date to costed Lines** option is selected, the system performs all the form-level validations, for the Costed line items, after saving the line items (selecting **Save**).

The following scenarios explain the behavior, when you edit a line item, or costed rows, after checking the box.

Scenario 1

Scenario	Description
Scenario 1-a	The <code>uuu_spa_per_comp</code> is editable and the Apply line item value of 'Percentage Complete to Date' to costed lines options is selected (checked) when the user enters a value for field <code>uuu_spa_per_com</code> in the summary row: 1. The corresponding <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> (depending on whether it is a <i>Lump sum</i> or <i>Unit Cost</i> type line item) in the summary row should get back-calculated as per the new value of <code>uuu_spa_per_com</code>. 2. All child costed lines should get auto-populated with the same value as the summary cell for <code>uuu_spa_per_com</code>. 3. The fields <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> for all costed lines get back-calculated according to the newly populated value of <code>uuu_spa_per_com</code>. In this case, the system stops at back-calculating the costed row values for <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> and does not roll the values into the line item value again (even if the option Total the Cost Breakdown values to the line item is checked). Here, if the back-calculated values of <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> total to a penny off from the line item cell value, the system adjusts that penny in the last costed line.

Scenario	Description
Scenario 1-b	The <code>uuu_spa_per_comp</code> is editable and the Apply line item value of 'Percentage Complete to Date' to costed lines options is selected (checked) when the user enters a value in the summary cell for fields <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code>, depending on whether it is a <i>Lump sum</i> or <i>Unit Cost</i> type line item: 1. The summary row field <code>uuu_spa_per_com</code> is calculated by the system. 2. At the same time, all child costed lines get auto-populated with the same value as the summary cell for <code>uuu_spa_per_com</code>. 3. The fields <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> (depending on whether it is a <i>Lump sum</i> or <i>Unit Cost</i> type line item) for all costed lines get back-calculated according to the newly populated value of <code>uuu_spa_per_com</code>. In this case, the system stops at back-calculating the costed row values for <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> and does not roll the values into the line item value again (even if the option Total the Cost Breakdown values to the line item is checked). Here, if the back-calculated values of <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> total to a penny off from the line item cell value, the system adjusts that penny in the last costed line.
Scenario 1-c	The <code>uuu_spa_per_comp</code> is editable and the Apply line item value of 'Percentage Complete to Date' to costed lines options is selected (checked) when the user enters a value in the summary cell for a field that impacts calculation of <code>uuu_spa_per_comp</code> (such as <code>uuu_spa_mat_stored</code> or <code>uuu_spa_other_tp</code>): 1. The summary row field <code>uuu_spa_per_com</code> get calculated by the system. 2. At the same time, all child costed lines get auto-populated with the same value as the summary cell for <code>uuu_spa_per_com</code>. 3. The fields <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> (depending on whether it is a <i>Lump sum</i> or <i>Unit Cost</i> type line item) for all costed lines get back-calculated according to the newly populated value of <code>uuu_spa_per_com</code>. In this case, the system stops at back-calculating the costed row values for <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> and does not roll the values into the line item value again (even if the option Total the Cost Breakdown values to the line item is checked). Here, if the back-calculated values of <code>uuu_spa_amt_tp</code> or <code>uuu_spa_qty_tp</code> total to a penny off from the line item cell value, the system adjusts that penny in the last costed line.

Scenario 2

In this scenario, the `uuu_spa_per_comp` field is read-only, but any of the other fields that impact its calculation (`uuu_spa_amt_tp`, `uuu_spa_qty_tp`, `uuu_spa_mat_stored`, or `uuu_spa_other_tp`) are editable, and the option **Apply line item value of <label of DE `uuu_spa_per_com`> to costed lines** is checked. In such scenario:

Scenario	Description
Scenario 2-a	If the user modifies the summary cell value for any of the editable fields, the behavior will be similar to Scenario 1-b and Scenario 1-c, above.
Scenario 2-b	If the user modifies the costed row value for any of the editable fields (existing functionality), the corresponding costed row value of <code>uuu_spa_per_com</code> gets calculated by system. This does not result in roll up, or impact, the summary cell value of <code>uuu_spa_per_com</code>, even if the option Total the Cost Breakdown values to the line item is checked. You can select (check) the Apply line item value of <label of DE <code>uuu_spa_per_com</code>> to costed lines option and the proceed to deselect (uncheck) it. Deselecting the option does not revert any of the changes that you had made when the option was selected, but it impacts the future operation and the subsequent summary value changes for <code>uuu_spa_per_com</code> will not automatically copy into the costed lines. If you make manual changes (after deselecting the option), select the option again: • The manual changes that you had made remain as they were. • The roll-down behavior from summary to costed rows occurs for all the subsequent summary row changes. If you select (check) the Apply line item value of <label of DE <code>uuu_spa_per_com</code>> to costed lines option, the system lets you only push the values down from the line items to the costed row (for <code>uuu_spa_per_com</code>). Even if the option Total the Cost Breakdown values to the line item is enabled, the system does not allow roll-up from the costed rows to line item for the following Data Elements: • <code>uuu_spa_per_com</code> • <code>uuu_spa_amt_tp</code> • <code>uuu_spa_qty_tp</code>

Summary Row Totals

The costed lines can be defined to roll up to their summary line items as "Sum of all rows" by using the form option "Total the Cost Breakdown values to the line item" in uDesigner (for a Payment Application BP which has reference to a Contract type BP of SOV Type: "Summary Payment Applications").

Similar to the "Totals: for fields on a Summary Payment Application detail form, you can define:

- The fields from costed lines sum up to the summary line item.

- The fields from costed lines do not sum up to the summary line item.

The values in summary line item fields populate as defined in uDesigner (Manual, Formula, or Auto-populate).

The following subsections provide details about when the option **Total the Cost Breakdown values to the line item** is checked (Summary Row Totals), or is not checked (Line Item Total), in uDesigner.

Summary Total

During runtime, if the uDesigner upper form option "Total the Cost Breakdown values to the line item" is checked, the Summary row values in Payment Applications grid displays per "Summary Total" option, selected by the user in detail form. The following table "Summary Total" provides details:

Costed Row Data Element Settings in uDesigner Data Entry / Access	Costed Row Data Element Settings in uDesigner Summary Total	Summary Row Value
Manual / Editable/Editable Required	As Defined	Editable. The value shows as 0 or \$0.00, per Data Element (DE) Data Definition (DD). The user can double-click into the cell and enter any value as per the DE Data Definition**. If the user deletes the value in the cell, it reverts to 0 (zero) or \$0.00, whichever applicable.
Manual / Editable/Editable Required	Sum of All Rows	Editable. The value shows sum of all costed lines. The user can double-click into the cell and enter any other value, per the DE Data Definition**. If the user deletes the value in the cell, it reverts to 0 (zero) or \$0.00, whichever applicable.
Manual / Read-Only	As Defined	Read-Only. Value: 0 (zero) or \$0.00
Manual / Read-Only	Sum of All Rows	Read-Only. Value: Sum of all costed lines
Formula (Always Read-Only)	As Defined	Read-Only. Value: Calculated according to the formula defined for the DE.
Formula (Always Read-Only)	Sum of All Rows	Read-Only. Value: Sum of all costed lines

Note

If the DE is set as Formula, the option **As Defined** is selected for the **Summary Total**.

Costed Row Data Element Settings in uDesigner Data Entry / Access	Costed Row Data Element Settings in uDesigner Summary Total	Summary Row Value
Auto-populate / Editable/Editable Required	As Defined	Editable. The value shows the auto-populated value, per definition. The user can double-click into the cell and enter any value as per the DE Data Definition**. If the user deletes the value in the cell, it reverts to 0 (zero) or \$0.00, whichever applicable.
Auto-populate / Editable/Editable Required	Sum of All Rows	Editable. The value shows sum of all costed lines. The user can double-click into the cell and enter any value as per the DE Data Definition**. If the user deletes the value in the cell, it reverts to 0 (zero) or \$0.00, whichever applicable.
Auto-populate / Read-Only	As Defined	Read-Only. Value: The auto-populated value, per definition
Auto-populate / Read-Only	Sum of All Rows	Read-Only. Value: Sum of all costed lines

**** If there is a total mismatch, a red triangle symbol appears in the cell and when you select the red triangle symbol the cell displays the difference.**

During runtime, the following DEs (summary row total value fields) are exception to the above settings:

- scheduled_value
- uuu_spa_prev_amt
- uuu_spa_per_comp

The uDesigner properties for the fields above are set as "Manual," but the system calculates the value of these fields as a system-calculated hard-coded formula.

- The summary cells for these three fields are calculated per system-defined hard-coded formula for each line.
- The fields are Read-Only, Editable, or Required per uDesigner setting.
 - If Editable, or Required, you can double-click into the cell and enter any other value, per the DE Data Definition.
 - If there is a total mismatch, a red triangle symbol appears in the cell. When you select the red triangle symbol, the cell displays the difference.

Line Item Total

If the uDesigner option "Total the Cost Breakdown values to the line item" is unchecked, even if the "Summary Total" option has been defined in detail form, the costed lines do not roll up to the summary rows in any of the forms. The following table lists additional scenarios:

Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime
1	Unchecked	Unchecked	As Defined	Blank, editable/required/read-only, per definition.
2	Unchecked	Unchecked	Sum of All Rows	Blank, editable/required/read-only, per definition.
3	Unchecked	Checked	As Defined	Blank, editable/required/read-only, per definition.
4	Unchecked	Checked	Sum of All Rows	Blank, editable/required/read-only, per definition.
5	Checked	Unchecked	As Defined	If the DE is set to "Manual," the summary cell is 0 (zero). The field is editable/required/read-only, per definition. If the field is editable/required, you can change the value.
5	Checked	Unchecked	As Defined	If the DE is set to "Formula," the summary cell is calculated per formula. The field is read-only.
5	Checked	Unchecked	As Defined	If the DE is set to "Auto-populate," the summary cell shows the auto-populated value. The field is editable/required/read-only, per definition. If the field is editable/required, you can change the value.
6	Checked	Unchecked	Sum of All Rows	The summary cell is populated by the system as sum of all rows. This field is editable/required/read-only, per definition.

Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime
7	Checked	Checked	As Defined	If the DE is set to "Manual," the summary cell is 0 (zero). The field is editable/required/read-only, per definition. If the field is editable/required, you can change the value.

Note This behavior overrides the "Costed Amount" setting.

Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime

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Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime

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Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime
7	Checked	Checked	As Defined	If the DE is set to "Formula," the summary cell is calculated per formula. The field is read-only.

Note This behavior is overridden when the Costed Amount must be equal to the line item total checkbox is checked.

Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime

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Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime
7	Checked	Checked	As Defined	If the DE is set to "Auto-populate," the summary cell shows the auto-populated value. The field is editable/required/read-only, per definition. If the field is editable/required, you can change the value.

Note This behavior overrides the "Costed Amount" field.

Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime

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Item	Checkbox "Total the Cost Breakdown values in the line item" in the BP upper form	Checkbox "Costed Amount must be equal to the line item total" in the BP upper form	Summary Total definition for a numeric Data Element on the BP detail form	Expected behavior of corresponding summary cell during runtime
				o w e d .
8	Checked	Checked	Sum of All Rows	The summary cell is populated by the system as sum of all rows. The field is editable/required/read-only, per definition. The system applies the "Costed Amount must be equal to the line item total" checkbox and prevents if you manually change the value to something other than sum of all rows.

Request for Bid (RFB) Business Processes

The Request for Bid (RFB) feature allows companies to invite bids from vendors and suppliers.

① Note

The system lets your company designate only one **Vendors** business process as the RFB master vendor list (master vendor BP/vendor master BP).

The bid invitation can be addressed to a specific set of vendors or can be opened to the public. The bidders are provided with a simple Unifier interface that does not require special training to use. Bidders receive email notifying them that they have received a bid invitation so they can log on to the system and submit their bids.

The subject line of the email is also included in email notifications sent from a:

- Bidder to Requestor
- Requestor outbound to Bidder
- Requestor outbound to copied users (cc)
- Requestor outbound to External copied users (cc)

In addition to receiving emails for Personal Tasks, CC'd Tasks, Overdue Personal Tasks, Record Workflow Complete, and Decline Tasks, RFB also includes email subjects for Login Information, Bid Invitation, and Due Date Change.

The bidder portal enables the bidder to use the **Announcements** icon () to view announcements by the owner company. The Bidder Business Process log (Bidder BP log) enables the bidder to view all requests, their titles, due date, and status.

The Bidder BP log has the following options:

- **View:**
 - Active
 - All
- **Refresh:** To refresh the log items.
- **Print:** To print the log contents.
- **Search:**
 - Status with values of All, Open and Closed
 - Search parameters based on Bidder log setting
- **Find on Page:** To find content on the visible page.
- **Help:** To view help options.

The *gear menu* () , in front of each record, is context sensitive and provides the following conditions and corresponding options:

Condition	Options
Bid has been received and no submissions have been made	Open - Opens the requestor's form Create - Will open the bid form
Bid has been submitted	Open - Opens the requestor's form View Submission Withdraw Submission - Confirmation asking user to confirm action. After a successful withdrawal, an alert will be seen  Note After a bid has been withdrawn, options seen will be: Open
Bid has been closed	View Submission - This will open the submitted bid Double-clicking the record will open the submitted bid form.

The preview pane, on the right side, contains:

- The form content, based on the current state of the record.
 - If the bid is active (just received a RFB or submitted a bid), the requestor form is displayed.
 - If the bid is closed, the content of the submitted bid is displayed.

- The Attachments tab is displayed.

The Mailbox provides a preview of a selected email, in the right pane. The Mailbox has an Inbox and a Sent Items section. The Inbox lets bidders view all the mails received from Unifier.

When you send an email to a bidder, the system includes information in the subject line that helps the recipient identify that the message is for an RFB, and it lists the RFB Record Number. The body of the message includes additional information, such as the Record Number and Title, and indicates the type of change made to the RFB.

When you receive an email from a bidder, the system includes information in the subject line that helps you identify that the message is for an RFB, it lists the RFB Record Number, and it indicates that the recipient received the original RFB request. The body of the message includes additional information, such as the Project Name and Project Number, critical bidder information such as the name of the company, first and last name of the contact, and the contact's email address, and a text field in which the bidder has entered additional information.

The subject line of the email is also included in email notifications sent from a:

- Bidder to Requestor
- Requestor outbound to Bidder
- Requestor outbound to copied users (cc)
- Requestor outbound to External copied users (cc)

The RFB type BP supports the **Grid** feature when the RFB design includes the subtype: **Line Item with CBS Code**. The **Grid** feature is available both in the Requestor and Bidder sides, within the Line Item tab.

Request for Bid (RFB) Type Business Process Form (Private)

If you have been invited for a private bid, you receive an RFB business process form that is not configured for public bidding. In such case, the upper form and detail form contain the following elements:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and open an RFB BP.
3. Open a record.

The record details screen opens with the following elements:

- **Send**
- **Save**
- **More Actions**
- **Tabs**
 - **General**
 - **Line Item**
 - **Winning Contract**
 - **Proposal Management**

The **More Actions** menu enables you to perform the following actions:

- **Print**
To print the form (HTML, PDF, Custom)

- **Reload**
To reload the information presented.
- **Review**
To preview an attachment.
- **Terminate Record**
- **Transfer Ownership**
- **Undo Accept Task**
- **Help**
To access the BP help and User Productivity Kit
- **Close**

Tabs (RFB Creation Form)

On the left pane, the **RFB Creation Form** tab contains the following field blocks:

- **General**
- **Details**
- **Calculation**

On the right pane, the **RFB Creation Form** tab contains the following tabs:

- **Attachments**
- **Comments**
- **Linked Records**
- **Linked Mail**
- **Workflow Progress**
- **Audit Log**
- **Reference Records**

Tabs (RFB Line Item List)

On the left pane, the RFB Line Item List tab contains the following toolbar options:

- **Form View**
- **Grid View**
- **Add**
- **Actions**
- **Refresh**
- **Print**
- **Search**
- **Find on Page**

On the left pane, the RFB Line Item List tab contains the following columns:

- **No.**
- **Attachments**
- **Linked Records**
- **WBS Code**

- **Short Description**
- **Line Item Last Update Date**
- **Item Quantity**
- **Item Unit Cost**
- **Unit of Measure**
- **Amount**

The **Total Amount** is displayed at the bottom of the left pane.

On the right pane, the RFB Line Item List tab contains the following tabs:

- **Line Item Details**
- **Attachments**
- **Linked Records**

When the RFB record is first completed, the **Winning Contract** tab will be visible.

On the left pane, the **Winning Contract** tab contains the following toolbar options:

- **Form View**
- **Grid View**
- **Refresh**
- **Print**
- **Search**
- **Find on Page**

On the left pane, the **Winning Contract** tab contains the following columns:

- **No.**
- **Attachments**
- **Linked Records**
- **Short Description**

When the bid is initiated, the **Proposal Management** tab will be visible.

On the left pane, the **Proposal Management** tab contains the following toolbar options:

- **Add**
- **Send Invitation**
- **Actions**
- **Refresh**
- **Find on Page**

On the left pane, the **Proposal Management** tab contains the following columns:

- **Attachments**
- **Mail**

Inviting to RFB

For public bidding, invitations are sent to the Vendors that you have selected from the Vendors business process (a company-level BP). The Vendors BPs can be found using the following steps:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Company Logs**, and then select **Vendor**.

To start the bidding process:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select **Request for Bid**.
3. Open the bid that you want to send.
4. Go to the **Proposal Management** tab.
If this is the first time you are sending an invitation, select **Add** to open the **Add Vendors** window, select the applicable Vendors BPs, and move them from the **Available** block to the **Selected** block. When all the applicable vendors have been selected, select **Add**. See [Public Bidding](#) and [Private or Non-Public Bidding](#) for more information about the options in the **Proposal Management** tab.
5. Select a vendor from the log.
If you are sending an invitation for the first time, select **Send Invitation**. Unifier sends two emails:
 - a. An invitation email, which contains the Unifier Login URL.
 - b. A credential email, which contains the user name and password.

If a vendor who has received an invitation loses their password, the vendor can change their password with the **Forgot Password** link on the Sign In page. For best results, bidders should change the password at the first log in, and then sign in using the newly set password.

The left section includes the general information about the requestor and the bid.

To modify the date, select the date icon, modify the date, and select **Done**.

The right panel includes the list of invitees to whom the invitations have been either sent out or will be sent in future.

When you select **Add**, a new full-screen window overlay appears (similar to BP Picker) that lets you select the list of vendors (from the Master Vendor List BP) that you want to add to the invitees list.

Add vendors by selecting items from the **Available** list and moving them to the **Selected** list, using the arrow buttons in the middle. Select **Add** when finished.

The *gear menu* () options in the left tab are:

- **Open Vendor Details**
- **Remove**
- **Send Mail**

Be aware that these options change depending on the Status of each invitation. For example, Send Mail is not available for vendors whose Status is Not Invited and Remove is visible but only functional for vendors whose Status is Not Invited.

The right pane displays the following tabs:

- **Attachments**

- **Mail**
For correspondence with internal team members. Unopened emails are displayed in boldface type to indicate that they have not been viewed.

For an RFB BP that is enabled for public bidding, if you select **Send Invitation** after the BP is opened for public bidding, the system displays an overlay screen that lets you modify the due date. Modifying the due date in public bidding is similar to the same feature in private bidding.

To view a list of emails sent:

1. Select the **Mail** tab in the right pane.
2. Use the column headings to sort the list by **From**, **To**, **Bidder Company**, **Subject**, or **Date**, or use **Find on Page**  to specify search criteria.

Audit Logs in Requestor BP (Private Bid and Public Bid)

The system audits all emails sent to the bidder (initial invitation, revised attachments, and so on). It also audits events in which a user opens a submitted bid to view it or generates a comparison. If you have permission to view audit logs, you can view the applicable events.

Audit Log Provided with Bid Information Tab

The **Audit Log** captures the following events when an email is sent to a bidder:

- Adding new addendums
- Revising Addendums
- Removing Addendums or original attachments

In all the preceding cases, the event name will be Bidding. Furthermore:

- For adding addendums, the Action name will be "Send Addendum <Attachment name>."
- For Revising addendums, the Action name will be "Send Revised Addendum <Attachment name>."
- When addendums or original attachments are removed, the Action name will be "Removed Addendum <Attachment name>" or "Removed Original Attachment <Attachment name>."
- Also, the attachment name is displayed in the **Audit Log** entry.

Audit Log Provided with Proposal Management Tab

The **Audit Log** captures the following events when a user:

- Opens a bid proposal or any of its attachments.
- Runs the Compare feature.

Language, Time Zone, and Date Format for Vendors BP

While creating a Vendors BP, you have an option to set the language, date format, and time zone specific to your bidders:

Note

The languages listed are the active languages selected by the administrator in the **Configuration - Internationalization** log.

- Contact Language:
- Date Format:
- Time Zone:

Note

The DEs mentioned above must be included in the RFB master vendor list BP (master vendor BP/vendor master BP) in uDesigner to be selected by the user in runtime.

The notifications follow the preferences of the user who has been specified in Bid Management Account field who is designated as the manager for all bidders or the company bid contact. This information can be found using the following steps:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Company Workspace**, select **Open**, and then select **Bid Management Account**.

Selecting the above options enables the bidder to receive email notifications (also Unifier Bidder Portal web page content and Bidder forms) in the bidder's language, date format, and time zone.

If the above options are not available, or not selected, the bidder receives email notifications (also Unifier Bidder Portal web page content and Bidder forms) following the user preferences whose name is indicated in the **Bid Management Account** field.

Note

If the RFB master vendor list BP (master vendor BP/vendor master BP) includes Date Format data element but no value is selected, the system displays a default date format (for example, MM/DD/YYYY HH:mm AM). The uppercase MM in the date format denotes month and lowercase mm denotes minutes. The Company Administrator must set the respective bidder's date format in the RFB master vendor list BP.

Unlike a standard user, a bidder user cannot change the preferences in the bidder portal. When this option is selected, the **Preferences** set forth in Vendor information record (for the vendor) will be seen in view only mode.

Working with RFBs

The RFB business process has a reference process to a vendor list business process, which contains the pool of vendors to whom the RFB will be sent. This vendor reference process will populate the upper fields of the RFB at runtime. The system automatically launches this reference process, when the RFB is activated.

After the RFB Business Process is active in the system, the bid procedure runs as follows:

You (the person who starts the bidding process and sends the invite):

1. Start the bid procedure by opening the RFB, filling in the form, and sending it for internal review (if necessary).
2. When the internal review is complete, you:

- a. Assemble the bid package and prepare the bid invitation for distribution.
- b. Send out the bid invitations, along with a user name and password, so that the vendors can log on to Unifier and submit their bids.

After the bid invitations have been sent, you must wait for the bid due date to pass.

The vendors:

1. When the vendors receive the bid invitation, they log on to Unifier and open the bid request.
2. (Optional) The vendors can request clarification of any questions or issues before submitting the bid. (The vendors can use the Mailbox link on the bid request for this purpose.)
3. The vendors then submit their bids.

You (the person who started the bidding process and sent the invite):

1. When the due date for all bids is reached, you tabulate the bids for comparison.
2. Open discussions about the bids, if necessary.
3. Award the bid to a vendor and automatically generate a contract copying relevant details from bid record into the contract.
4. Select a winning bid, after discussions with the members of your team.

In Unifier, you can create a contract from the winning bid (the bid that was selected from multiple bids) automatically, and the contract that is generated automatically will have a copy of the data from the winning bid (terms and negotiating amounts), if any. For more information, see [Select Winning Bid](#) and [Auto-create Contract](#).

Active bids in Bidder log

When you open the **Attachments** tab, the following blocks and sub-blocks will be present, depending on the bid status:

- Unpublished Attachments
 - Addendums
- Published Attachments
 - Original Attachments

All active bids can receive additional attachments, from the requestor. When the bidder opens or views the bidding in the log, the new or additional attachments will be shown under the **Addendums** block.

When a bid receives a new attachment, as addendums, the system sends a new email to all bidders. The system sends a similar email when an existing bid attachment is removed.

Sending the Bid Request for Internal Review and Approval

For most companies, an internal review is necessary for the purpose of verifying the scope of the project as well as other issues such as terms and conditions, architectural drawings, and structural materials.

To send the Bid Request for internal review and approval:

1. Navigate to the RFB log, and select **Create**. The RFB BP form opens.
2. Complete the form.

3. After you submit the form for review, use the **Workflow Actions** list to send the RFB into the workflow.

After the approval request reaches the middle of the workflow, you receive the completed BP as a task in your **Tasks** log. When you open the form this time, you should see a **Send Invitation** button on the toolbar of the **Proposal Management** tab, with which you can start the bidding process.

After the bid request is approved, you can start the bidding process.

Starting the Bidding Process

After the RFB has completed the internal review and approval, you can start the bidding process.

To start the bidding process:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select **Request for Bid**.
3. Open the bid that you want to send.
4. Go to the **Proposal Management** tab.
If this is the first time you are sending an invitation, select **Add** to open the **Add Vendors** window, select the desired Vendors BPs, and move them from the **Available block** to the **Selected** block. When all the desired vendors have been selected, select **Add**.
5. Select a vendor from the log.
If you are sending an invitation for the first time, select **Send Invitation**. The system sends two emails:
 - a. An invitation email (contains the Unifier Login URL).
 - b. A credential email (contains the username and password).

If a vendor who has already received an invitation loses their password, the vendor can change their password with the **Forgot Password** link in the Sign In page. For best results, bidders should change the password at the first log in, and then sign in to Unifier using the newly set password.

The following provides additional information regarding the bidding process:

- If you need, you can modify the bidding due date in the upper portion of the **Proposal Management** tab.
- The list of vendors you use to distribute the bid invitations can include your company's entire list of vendors or a list of "approved vendors" specific for the project you are working on.
- Your administrator can design a business process that filters the master list of vendors into a subset of this list for your project. If such a subset of the vendor list has been created for your project, this is the list of vendors you will see in the Bidders window, unless this is a public bid. For public bids, the filtered vendor list will be ignored.
- To see the approved list of vendors with more information, go to your project **Logs** grouping node in the Navigator, and select the business process that created the vendor list for your project. The system will display the list of records in that business process. To see the approved list, select **View filtered Records** on the toolbar.

Note

After you have sent out all the bid invitations, the system freezes the RFB until the bid due date passes. After the due date passes, you can compare the bids.

Filtering Bidders

During the BP run-time, the list of available bidders depends on the options set in uDesigner.

- When you do not select set additional filter for a bidder in the RFB BP, and you are in a Shell, then:
If a Line Item type BP of sub-type, "Line item to filter Company BP record" exists and the option of, "Use Master Vendor list filtered at Project level" is checked, the list of vendors will be filtered based on this existing functionality.
- When you select set additional filter for bidder in the RFB BP and you are in a Shell, then:
A filtered list of potential bidders is listed which includes all those bidders referenced by the BP Data Picker and the system ignores the Line Item type BP of sub-type, "Line item to filter Company BP record." To see the approved list of vendors with more information, go to your project **Logs** grouping node in the left Navigator, and select the business process that created the vendor list for your project, and from the toolbar, select **View filtered records**.

The BP Data Picker:

- Does not need to be populated in the RFB form.
- Value will always be ignored, and the system uses the query conditions on the Data Picker to filter the list of vendors.

If no query conditions are defined for the BP Data Picker, you will see the list of all vendors.

In uDesigner, you can place the BP Data Picker, in the RFB BP, in a hidden block. If the BP Data Picker is placed in the hidden block, you can filter the list of vendors through the defined query conditions.

Public Bidding

For public bidding, invitations are sent to the Vendors that you have selected from the Vendors business process (a company-level BP).

To access Vendor BPs:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Company Logs**, and then select **Vendor**.

The option for enabling public bidding in uDesigner was deprecated in version 23.5 and removed in version 26.4. Existing designs in which the feature is enabled will continue to function.

Public Bids: Requestor BP - Invite form

When you select the **Invite** option (from the **More Actions** menu), after the BP has been opened for public bidding, the **Invite** overlay page opens. The following blocks are displayed on the **Invite** overlay page:

- **General**
This block has the following fields:

- **Title**
- **Requester Name**
- **Phone**
- **Due Date**
- **Email**
- **Invitation**
This block has the following toolbar options:
 - **Add**
To add invitee.
 - **Send**
To send password.

This block has the following columns:

- **First Name**
- **Last Name**
- **Company**
- **User Id**
- **Sent Date**

The **Invite** overlay page has the following tabs (right pane):

- **Attachments**
Go to this tab to add additional attachments through using the **Browse** or **Document Manager** options, similar to the [Private or Non-Public Bidding](#).

All the attachments that have been added, from this form, are shown in the Addendums as well as the Attachments tab of the Requestor form (Request for Bid), similar to the [Private or Non-Public Bidding](#).

In the Requestor form (Request for Bid), **Attachments** tab, you can see the attachments that have been added from the **Proposal Management** tab. After uploading a file to the **Attachments** tab, the bidder is allowed to rename the file to ensure that meaningful names are used within the proposal.

The new column, Addendums, can be seen under the Attachments tab in the BP log of the RFB records. The additional attachments, added from the **Invite** form and sent to bidders, are also shown under the Attachments tab in the BP log, but they will be listed as Addendums.

The requestor can make changes to the attachments. Changes made to the **Attachments** tab, before an invitation is sent out to the invitees, will be audited and displayed on the **Audit Log** tab.
- **Mail**
Go to this tab to send email to the vendors, when the bidding is open (select **Send** and then select **Mail**).

The emails that have been sent to the bidders are shown in the **Mail** tab, similar to the [Private or Non-Public Bidding](#). The **Mail** tab includes headings such as From, To, Bidder Company, Subject, and Date. Unopened emails are displayed in boldface type to indicate that they have not been viewed.

Private or Non-Public Bidding

In the **Proposal Management** tab, select **Add**, select vendors, and select **Add** to send the invitation to the Vendors.

Private Bids: Requestor BP

In an RFB, the Requestor can send an email to the bid-invitees from the Linked Mail tab. The Requestor is also able to send emails from the **Proposal Management** tab. You can add attachments in the **Attachments** tab, within the Proposal Management tab, while the bid is open.

Note

On the Attachments tab, the attachments must be identified as being added as addenda. This ensures that when the Bidder opens the bid (or views the bid) from the log, the newly added attachments are shown as addendums for the open bids.

The following explains each tab in detail.

Tab	Description
The Attachments tab has two sections:	Unpublished Attachments: The attachments added from the Browse option are displayed under Unpublished Attachments. The Unpublished Attachments has two sections: • Addendums: When the bid is still open, it lists all the additional attachments that have been added, using the Browse option  in the invite form. • Original Attachments: Lists attachments that have already been sent as part of the bid invitation (and are originally attached to the Requestor form (Request for Bid) through the Browse option) but have not been published yet. Published Attachments: The attachments added from the Document Manager option are displayed under Published Attachments. The Published Attachments has two sections: • Addendums: When the bid is still open, it lists all the additional attachments that have been added, using the Document Manager option  in the invite form. • Original Attachments: Lists attachments that have already been sent as part of the bid invitation (and are originally attached to the Requestor form through the Document Manager option) but have been published.

Tab	Description
	There are two ways to add attachments (select ): • Browse • Document Manager When you select to add an attachment, the system displays the message: All the invitees will receive the addendums. Do you want to continue? • If you select Yes, you can add the attachment. • If you select No, the Upload File window does not open. Any attachment that gets added under the Attachments tab will be shown in the Requestor form (Attachments tab), as Addendums. You must send emails to all invitees regarding any added, removed, or updated attachments to the bids. The <i>gear menu</i> () for the items within the Attachments tab, let you conduct the following functions on each item: • Revise: To revise the document contents. • Review: To review the document contents. • Download: To download the document. • Remove: To remove the document. • Rename: To change the name of the document. When you select any of the <i>gear menu</i> options, the system displays the message: All the invitees will receive the addendums. Do you want to continue? The Attachments tab log (grid) columns in the Invite form and the Requestor form are similar to any other BP form. The Upload Date column (under the toolbar section and to the right) lists the dates that each attachment was uploaded. Any Attachments that are added from the Invite form as addendums are shown in the Attachments tab of the Requestor form (as addendums) after the form becomes editable. The attachments that were added as addendums can be identified under the Addendums section, under unpublished or published documents. All additional attachments that have been added from the invite form and sent to bidders are shown under the Attachments tab, in the BP log, but they will be listed as addendums.

Tab	Description
The Mail tab:	The Mail tab lists all emails sent to bid invitees. When you select Send and then select Mail from the Invite form, a new email window will display which contains the following columns, similar to the Linked Mail tab: • Flag: Flagged mails can be identified by using this column. • Attachments: When attachments are added to an email, the Attachment icon  is seen. • From: Shows the requestor name (logged in username). • To: Shows the selected bid invitees. You can select one or more invitees, and you can send emails while the bid is open. • Subject: Shows the subject of the email that is sent. • Date: Shows the date the email is sent. The system adds the sent emails (from the Invite form) to the Mail tab in the Invite form, and the Linked Mail tab in the Requestor form. The sent bid-invitations are displayed in the Mail tab of the Invite form. The Mail tab includes headings such as From, To, Bidder Company, Subject, and Date. Unopened emails are displayed in boldface type to indicate that they have not been viewed. Note Emails must be sent only through the Invite form. The Linked Mail tab does not let you send emails to the bid-invitees. The emails sent to the bid-invitees from the Invite form are also shown in the Linked Mail tab. All the mails sent to bid invitees from the Invite form should also be shown in Linked Mail tab.

Bidders and Passwords

The bidders *who have used* the system before:

- Will not receive a new password when they create/submit a new bid.
- Are expected to use the password they had used from the previous bid to log in to Unifier.
- Can change their password. For more information, see Change Password.

Note

When you change your password, you will be logged out automatically. Log in again with your new password.

- Can use the "Forgot Password" process, if they have forgotten their password.
- Receive an email from Unifier containing the new bid and the URL that they can use.

The new bidders *who have not used* the system before, receive an email from the system inviting them to the bid followed by a second email that contains a user name and system-generated password.

Comparing the Bids

After the bidding process ends (after the bid due date has passed), you can open a bid tabulation to compare the bids you received. A default bid tabulation sheet is available in the system, or your company may have a custom-designed bid tabulation sheet.

To compare bids:

1. Open the Request for Bid (RFB) record.
2. Select the **Proposal Management** tab to view the bids you received. After the bid is closed, upon selecting the bid, you can only view the information of the invitation that was sent, along with the bids that have been received.
3. From the list, select the vendors you want to compare, and select **Compare**. The Bids Comparison window opens, showing the bids you selected. From the toolbar, check **Star Vendors Only** to view the data of only shortlisted vendors. To compare the line item total with reference to the selected proposal, select a proposal from the **Compare with** list. The list includes all proposals selected for comparison.
4. Select **Save** or **Cancel** after making any edits.

Record Details tab

By default, the Bids Comparison sheet opens in the **Record Details** tab where you can view requestor estimates and proposals in a multiform view.

Reorder bids by hovering the top of the bids and dragging them to the desired position.

Use the **Bidder Qualification** list to designate each bid as Qualified, Not Responsive - Disqualified, or Not Responsible - Disqualified.

Hover the top of a bid to view a menu in which you can:

- **Send Email**
- **Open Vendor Details**
- **Open Proposal**

Line Items tab

To view the bid comparison in a grouped grid view, navigate to the **Line Items** tab.

The grid contains a **Short Description** column, a **Requestor Estimates Column**, and **Vendor Column Groups**.

The **Short Description** column lists all lines entered by the requestor and additional lines entered by each vendor. Additional lines display 0.00 for vendors who have not quoted.

The **Requestor Estimates Column** contains data elements selected for comparison for the detail form. This column is fixed and cannot be sorted.

Each **Vendor Column Group** contains all data elements that have been included for comparison from the detail form. The lowest amount per line item among all visible vendors in

the grid displays in green. The highest amount per line item among all visible vendors in the grid displays in red.

Select Winning Bid

To select the winning bid:

1. Open the RFB record.
2. Go to the **Proposal Management** tab.
3. Select the bid to accept.
4. Select **Award**.

Note

If you select **Yes** to proceed, awarding the winning contract removes all existing line items from the **Winning Contract** tab and replaces them with the line items per the selected winning contract.

Requestor Upper Forms

The Bid Picker (Winning Bid) is available on any Requestor Upper Forms of an RFB type Business Process as a second Detail tab (Winning Bid). The "Select Winning Bid" properties window lets you select a bid, clear bid selections, and find bids.

- You cannot select a winning bid unless the bidding process has been completed.
- After the bidding process has been completed, you can select a bid and click Select. When you select a bid as the winner, then:
- The winning bid picker displays the name of the company that has been selected (Company Name).

If the Requestor form has the second Detail tab (Winning Bid), all the lines of the winning bid form will be copied into the second Detail tab (Winning Bid). Lines are copied according to the matching DEs from the Bidder Detail form and the Bid Comparison Sheet. If additional DEs have been included in the Bid Comparison Sheet, the additional DEs will be copied into the second Detail tab (Winning Bid) if the second Detail tab (Winning Bid) contains the matching DEs. The DEs in the Bidder Detail form and the DEs in the Bid Comparison must match so you can copy data.

For each copied line item, the value of the CBS Code (`bitemID`), or a CBS Name (`bi_item`) must be mapped from the corresponding line item in the standard tab Detail line item.

Example

Assume a standard tab that has 3 line items and each line item is associated with a CBS Code. When bids are requested, these 3 line items will be copied into the Bidder Detail tab so that the Bidder can bid on those 3 line items. The Bidder form (Bidder Detail tab) does not allow placing `bitemID`, `bi_item` DEs. As a result, the Bidder form line items will not display the CBS Code, or the CBS Name.

When Bidder A adds 2 more line items to the Bidder form before submitting the bid. After all bids have been submitted, the Bid Comparison Sheet column for Bidder A shows 5 line items (3 line items from the Requestor standard tab, and the 2 line items that have been added by Bidder A, manually).

If Bidder A is selected as winner, and the requestor adds more line items such as the negotiated amount, price, quantity, and so forth, the Bid Comparison Sheet, for the winner (Bidder A) will have more information than originally included by Bidder A, when Bidder A submitted the bid.

Note

The additional line items that the requestor has added must be captured in the "Bid Comparison Sheet" by the requestor by way of adding corresponding DEs in uDesigner (for more information, go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select uDesigner, and then select Business Processes; open the RFB Business Process; in the left Navigator, select Bid Comparison Sheet, and then select Detail).

All line items, within the second Detail tab (Winning Bid) must be valid before an RFB record can be successfully routed to next step. If you change the value of a "Winning Bid" picker on the Requestor Upper form, the existing line items in the tab (<winning bid tab name>) will be removed and the system sends a confirmation request. If you confirm the change, the Winning Bid selector displays the new value and all the line items from the second Detail tab (Winning Bid) will be deleted.

If you use the Clear option in the winning bid selector window, the existing line items in the tab (<winning bid tab name>) will be removed and the system sends a confirmation request. If you confirm the change, the confirmation window and the winning bid selector window will close, the winning bid selector value will be cleared, and all line items from second Detail tab (Winning Bid) will be deleted, including line items add manually.

The system saves the following information to the database, each time you make a winning bid selection:

- Winning Bid picker value
- Winning Bid Detail tab line items
- Any DEs on Requestor Upper form which are set to auto-populate from winning bid picker

As a result, if you select a winning bid and perform an Undo Accept Task, then:

- Winning bid will stay as selected
- Winning bid tab Detail line items will persist and not revert
- Fields that receive AP from winning bid will be persisted and will not revert
- Other DEs will be reverted back as per existing functionality

Note

If the winning bid picker is blank, but the Winning Bid Detail tab has line items that have been manually added, the manually added line item will be removed when you perform an Undo Accept Task.

If you close a form window without saving the form:

- Winning bid Picker, auto-populated fields, and the winning bid Detail tab line items will still be saved as records
- Other fields will not be saved (as per existing functionality)

To clear the winning bid related information, you can do one of the following:

- Clear, or reselect, the winning bid Detail tab to its previous value before performing Undo Accept Task.
- If you performed Undo Accept Task, select Accept Task, and reselect, or deselect the winning bid picker.

If there is more than one assignee on a step:

- When user 2 tries to select the winning bid, if user 1 has already done a selection, user 2 will receive an alert notifying user 2 that some of the line items have already been saved to the winning bid tab (<winning bid tab name>) and the action taken by user 2 will remove all those lines and recreate lines as per new information in the DE (<label of DE uuu_rfb_winning_bid>) selection.
- New line items will be created in the winning bid Detail tab as per user 2's response.

The special runtime behavior of the winning bid Detail tab is connected to the winning bid selector DE (uuu_rfb_winning_bid). You can select not to place the winning bid selector DE (uuu_rfb_winning_bid) on the form and still use the winning bid Detail tab by naming it something else. The winning bid Detail tab will behave like any other non-standard detail tab in such a scenario.

Also, similar to other Detail tabs in Business Processes, you can delete line items from the winning bid Detail tab if it is configured as such.

Additional information about selecting winning bid

To keep winning bid details hidden from the bidder, if a user signs in as a "Bidder," the requestor Winning Bid Detail tab will remain hidden.

If you select a bid using the winning bid selector on RFB Upper form, the winning bid will be highlighted in the following window:

- Select Winning Bid: By way of displaying the selected bid in bold typeface.
- Show: By way of displaying the "Winning Bid" column.
- Compare: By way of displaying the selected bid in bold typeface.

Note

The DE of DD = Bid Picker will not be available for bulk editing or bulk action.

When you copy an RFB record to create an RFB record, note that:

- Not all the line items in the winning bid Detail tab are going to be copied.
- The picker "Winner Bid" will not be copied.
- DEs will be copied, similar to the standard copy behavior for records in the system.

Auto-create Contract

When an additional Detail tab (for the Requestor section of all RFB type Business Process forms) is available, you can use the second **Detail** tab (non-standard tab) to record the lines of the winning bid, as the user copies the data from the **Bid Comparison Sheet**.

In general, the **Bid Comparison Sheet**, for a preferred bidder, contains more information than the information submitted by the bidder.

The second **Detail** tab is similar to that of any other non-standard **Detail** tab on any other Cost-type BP which allows multiple tabs.

To be able to use this feature, the following conditions must exist:

- The "uuu_rfb_winning_bid" data element must be included in the RFB requestor form.
- At least one bidding process must be completed.

After these conditions are met, you can select the winning bid.

The **Result** window displays all the completed bids. You can select one bid as the winning bid and after selecting that bid the system copies all the lines of the winning bid onto the **Winning Bid** tab.

The system copies the lines base on the matching data elements available on the:

- **Bidder** detail form
- **Bid Comparison Sheet**

The destination record is created by auto-creation and selecting a Winning Bid is not required for successful auto-creation.

The BP Creator is available after all the mapping to the second Detail tab (Winning Bid) is complete. If the BP Creator is configured to auto-create a CBS Cost type Business Process, but the source Bidder Detail form did not contain a CBS picker (*bitemid*), the auto-creation will fail. To correct this error, you must correct the data (for example, selecting the CBS code before routing it to the next step), manually.

Note

The value of *bitemid* cannot be copied over when a record is auto-created from a Summary Base Commit to a non-Summary Base Commit.

What the Vendor Does

Use the instructions in this section to familiarize vendors with the Unifier interface so they can submit bids.

When a bidder is invited to bid for the first time, the system sends two emails simultaneously:

- Invitation email, which contains the URL to log on to Unifier.
- Credential email, which contains the username and system-generated password.

Note

For best results, a bidder should change their password at the first log in, and then sign in using the newly set password.

About the Bid Due Date Time

Be aware that the due date and time for the bid reflect the time of the server on which Unifier is running. (Unifier servers operate on Pacific Standard Time.)

To sign in:

If you received a bid invitation, you should also have received an email containing a link to Unifier, a user name, and a password.

1. Open the bid invitation, and select the link provided.
2. At the login screen, enter the user name and password provided in the email. The Unifier home screen opens.

To submit a bid:

1. In the left Navigator, select **Request for Bid/Bids** (or **Request for Bid Private/Bids** if you have been invited for a private bid). A bid log appears on the right pane showing a list of open bids you have been invited to submit.
By default, the system displays only open bids. If you want to see all the bids you have been invited to submit, use the View menu. Select the arrow, and choose All from the list. The system will display all your bids, past and present.
2. In the Request for Bid log, double-click the name of the RFB you have received. The **Request for Bid** form opens.
Before you submit the bid, you can communicate with the requestor about any questions or issues that need clarification. The Request for Bid form provides a link to a Unifier Mailbox feature. To send a communication:
 - a. Select the **Linked Mail** tab at the top of the window. The Linked Mail tab shows a chronological list of any existing communications.
 - b. Select **Add**, and then select **New Mail**. An email-type form opens, where you can send a communication to the requestor.
3. To participate in the bid, you must accept the request for bid using the **Accept** button in the upper-right corner.
4. Fill in the upper-form fields that are required.
5. Go to the **Line Item List** tab and add line items to the form through one of the following methods:
 - a. Select **Add**. Then, in the right pane, fill in the fields on the Line Item Details tab, and select **Save** or **Save & Add New**. The line item detail you entered appears in the log on the left pane.
 - b. Use the **Export** button to export a CSV or Excel template of the line item form to be opened in a separate application that reads CSV or Excel files. After the correct information has been added to the CSV or Excel file, use the **Import** button to create line items based on the data in the CSV or Excel file. For more information about this process, see [Importing Line Items to a Request for Bid](#).
6. (Optional) To add an attachment to the bid, open the Attachments tab in the right pane, select **Attach Files**, and then select **Browse**. A file upload window opens.
 - a. Within this window, select **Browse** to search your system for files to attach. Alternatively, you can drag and drop files into the window.
 - b. Navigate to the file you want to attach and select it. Then select **Open**. The file name appears in the list
 - c. Select **Upload**. After the file has been uploaded, the window will close automatically. On the Request for Bid form, Unifier indicates the attachment in the lower-left corner of the window. You can select **Attachments** to verify that the attachment is correct, or rename or remove an attachment.
7. Select **Submit Proposal** to finalize the bid or **Save** to save changes to the bid.

The following rules apply when a bidder accesses new forms:

- If the Requestor has created the bid request in Classic view, the bidder will be able to perform all subsequent actions (such as View the request/Create Bids in Classic view).
- If the Requestor has created the bid request in Standard view, the bidder will be able to perform all subsequent actions (such as View the request/Create Bids in Standard view).
- After the bid is submitted and the due date is passed, Unifier opens the RFB form in Standard view.

To withdraw a bid:

1. Sign in to Unifier.
2. In the left Navigator, select **Request for Bid/Bids** (or **Request for Bid Private/Bids**, if you were invited for a private bid). A bid log appears on the right pane.
3. In the log, double-click the name of the RFB you received. The Request for Bid form opens.
4. Select **Withdraw** in the upper-right corner of the window.

To view or print the bid after submitting it:

1. Sign in to Unifier.
2. In the left Navigator, select **Request for Bid/Bids** (or **Request for Bid Private/Bids**, if you were invited for a private bid). A bid log appears on the right pane.
3. In the log, select the bid record that you want to view or print.
4. From the toolbar, select **Print** , and select one of the following:
 - **Print**
 - **Export To CSV**
 - **Export To Excel**

Importing Line Items to a Request for Bid

You can export a template for CSV or Excel that includes the line item detail form fields as columns for the Request for Bid business process. These fields include the detail form line item fields defined in Integration.

You can then modify the exported template and import it to create line items for the RFB.

Note

To import or export line item templates, you must first accept the bid.

To export the request for bid line item template:

1. Navigate to the Request for Bid business process log.
2. Open a bid from the log.
3. Go to the **Line Item List** tab.
4. Select Export, and select one of the following options:
 - **Export Line Item Template in CSV**
 - **Export All Line Items in CSV**

- **Export Line Item Template in Microsoft Excel**
- **Export All Line Items in Microsoft Excel**

Depending on your browser, the file will be downloaded automatically, or you will be prompted to download the file manually.

To modify the request for bid line item template:

1. Open the exported CSV or Excel file in Microsoft Excel. The line item columns are listed.
2. Enter the line item information into the spreadsheet. Each line must begin with a "D". For multiple tabs, you must enter appropriate tab name in the Tab Name column.
3. Enter data into the required fields, as well as non-required fields as needed.

Note

- Data for formula-based columns is ignored.
- Any line items with the Amount equal to zero will not be imported.
- Ensure that you are importing the records you want to import. Any line items that you import will be added after any existing line items.
- Use to add new lines only, not to modify existing lines
- All data created through the CSV or Excel import is rolled up to the cost sheet
- For data to import correctly, you might have to change some of the cells in the CSV or Excel file to Text type. For example, if you have a CBS code of 1-1, Microsoft Excel can interpret this entry as a month-day combination and reformat it to Jan-1. In this case, your data import will fail because this data is now an invalid CBS code.
- Image picker data elements will not be shown in the CSV or Excel template.

To import the request for bid line item template:

1. Navigate to the Request for Bid business process log.
2. Open a bid from the log.
3. Go to the **Line Item List** tab.
4. Select **Export**, and select one of the following options:
 - **Data From CSV File**
 - **Data From Excel File**
5. Browse to select the file to import, and then select **Next**.
6. Add any attachments to the import.
7. Select **Upload** when finished.
If there are any import errors, you can open the CSV or Excel file to view and correct the error. No records are imported if any rows contain an import error.

Changing Vendor Email Address

You can change the bidder email in the **RFB Vendors BP** by selecting **Line Item Type Vendor** and then selecting **Bidder Email**.

If you accept the change (select **Finish Editing** or **Save** and then select **Yes**), the system updates the vendor record, with the new email address.

- If there are active bids for the vendor, the system sends an email to the vendor with their username and password.
- If there are no active bids, the system changes the email address, but the system does not send an email to the vendor.
Unifier deactivates the old email address.

If you change the vendor's email to an email that exists in the system, the following message will be displayed: Existing email or username cannot be used.

If you do not accept the change (select **Finish** and then select **No**), the system reverts to the original email address.

To change the vendor email address through integration, Reverse Auto-population (RAP), or Bulk Edit:

If you update the vendor's email address on the vendor record by way of integration, Reverse Auto-population (RAP), or Bulk Edit, the system updates the record with the new email address and sends an email to the vendor, if the bids are active.

Note

The system does not send an email to the vendor if the bids are inactive.

Exporting Record Details and Line Items from Bid Comparison Sheet

A project manager can share information about bids that have been submitted by multiple vendors with the rest of the project team members by way of the Bid Comparison module and through exporting the Bid Comparison sheet data (record details and line items details) based on certain parameters.

The following explains the process of exporting the Bid Comparison sheet data based on certain parameters:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs** and open a RFB BP.
3. In the **Requests for Bid** log, select and open a record.
4. In the record window, go to the **Proposal Management** tab.
5. From the left pane, select the records you want to compare, and select **Compare**, opening the **Compare** window. By default, the **Record Details** tab is active which shows the details of the bid comparison. The other tab on the **Compare** window is the **Line Items** tab.
6. In the **Record Details** tab, select **Export** to enable Unifier to generate the export file (The Excel file "**Compare_Export - xlsx**" shown in your browser's download log).
7. After the Excel file is generated, open the file, or the exported comparison sheet file. Notice that the file has two worksheets: **Record Details** and **Line Items**. These two worksheets correspond to the **Record Details** tab and the **Line Items** tab, on the **Compare** window, respectively. The coloring scheme used within the columns of each tab is also maintained in the columns of the corresponding worksheets of the export sheet.

The **Records Details** worksheet contains the following informational text:

This file contains the proposals received for - <Record No>: <Record Title>

The content of this file is for information purpose only and cannot be used to import data into the system.

The upper form data has been exported into the Record Details worksheet. The line item data has been exported into the Line Items worksheet.

Proposals for the following Vendors have been exported along with the Requestor Estimates.

<Vendor 1, Vendor 2...>

The record details are displayed in columns. The **Requestor Estimates** column is locked, by default. The color format, as mentioned, is according to the color format of the sheet. The text in each cell is wrapped and can be displayed in multiple lines when the size exceeds the column width. The rest of the columns show the vendors (for example, the vendors according to the selection of the **Star Vendors Only** field at the time of export).

In the **Line Items** worksheet, the **Requestor Estimates** column is locked, by default. The color format, as mentioned, is according to the color format of the sheet. The rest of the columns show the vendors (for example, the vendors according to the selection of the **Star Vendors Only** field at the time of export).

When you are on the **Compare** window, you can select the **Star Vendors Only** option before exporting the data and compare the requestor estimates with bids submitted by only the star vendors in the comparison sheet.

In general, on the **Compare** window, you can conduct a combination of comparisons by selecting or not selecting the **Attachments Only** or the **Star Vendors Only** options and selecting various bids (under the **Compare With** drop-down field). The **Sort** icon (on the upper-right corner) enables you to sort the bids displayed on the on the **Compare** window.

Again, all the selections or views set in the **Compare** window will be reflected on the generated export file.

Lease Business Processes

Lease business processes (BPs) are a Cost type BP. You can use the Lease BP at the project/shell level to set up and manage real estate leases and view the expected Payment Schedule (regular as well as straight line) using the lease data from the BP. You can set up a Lease BP if you are the landlord (lessor), or if you are the tenant (lessee). You can use it for new leases you have just contracted, or existing leases. The Lease BP lets you track incoming or outgoing payments, and you can use the Generic Cost Manager to roll up the amounts.

Lease BPs are typically used to auto-create invoices (if you are the landlord) or payment requests (if you are the lessee). These auto-created business processes are designed and set up by your administrator. See [Auto-create an Invoice or Payment Request from a Lease Business Process](#).

Lease BPs can be workflow or non-workflow cost business processes. If they are workflow business processes, you can route them like other workflow business processes.

Note

- Lease BPs cannot be defined at the Company level and do not support CBS functions.
- By design, the Line Item Details in the Lease BP cannot be auto-created.

Leases can be designed with fields that you can use in line items to perform lease data calculations. These calculations generate lease payment schedules. For example, you could add lines items for rent, cost of maintenance, or taxes to a lease. The data in these line items is data that you enter, or data that is populated based on calculations.

On Leases, you can:

- View expected payments for the lifetime of the lease using the Regular Payment Schedule and Straight Line Schedule reports
- Disable the auto-creation of related BPs, or re-enable these auto-created BPs as needed
- Create Payment Schedules (regular and straight line)
- Create snapshots of the lease for historical purposes

In addition to typical behavior, the Lease BP supports:

- Consolidation from other Cost BPs
- Snapshot creation
- Auto-creation
- Auto generation of Regular and Straight Line Payment schedules
- Integration methods for creating upper form as well as line items of all tabs
- Multiple tabs for line items (up to 8 tabs)
- An allocation template to divide lease payments into different amounts for multiple tenants in a building.

Lease BP Payment Schedule

Changes to Lease Payment Terms will be always applied on future payment schedules, starting from the first payment of the next term, depending on the term type and length. The change in escalation rate or value can happen in two ways:

- Line Item: Change the escalation value or switch the Index Rate picker record on the line item.
- Index Rate BP: Change the rate value on the source Index Rate BP record in the Company workspace.

Lease (Payment Setup) Details

Field	Example
Start date	03/01/2021
End date	02/01/2027
Payment Frequency	Monthly
Initial Amount	\$1,000.00
Payment Due Day	1

Field	Example
Latest Payment Due Day	1
Payment Notice Lead Time	10
Escalation Method	Index Rate
Escalation Frequency Term Type	Yearly
Escalation Frequency Term Length	1

Lease Payment Schedule

Start Date	End Date	Due Date	Payment Type	Amount (with initial Index Rate 10)	Amount (with new Index Rate 20, switched on 27th Nov, 2023)	Yearly escalation
03/01/2021	03/31/2021	03/01/2021	GTO	\$1,000.00	\$1,000.00	Start of Lease
04/01/2021	04/30/2021	04/01/2021	GTO	\$1,000.00	\$1,000.00	
05/01/2021	05/31/2021	05/01/2021	GTO	\$1,000.00	\$1,000.00	
06/01/2021	06/30/2021	06/01/2021	GTO	\$1,000.00	\$1,000.00	
07/01/2021	07/31/2021	07/01/2021	GTO	\$1,000.00	\$1,000.00	
08/01/2021	08/31/2021	08/01/2021	GTO	\$1,000.00	\$1,000.00	
09/01/2021	09/30/2021	09/01/2021	GTO	\$1,000.00	\$1,000.00	
10/01/2021	10/31/2021	10/01/2021	GTO	\$1,000.00	\$1,000.00	
11/01/2021	11/30/2021	11/01/2021	GTO	\$1,000.00	\$1,000.00	
12/01/2021	12/31/2021	12/01/2021	GTO	\$1,000.00	\$1,000.00	
01/01/2022	01/31/2022	01/01/2022	GTO	\$1,000.00	\$1,000.00	
02/01/2022	02/28/2022	02/01/2022	GTO	\$1,000.00	\$1,000.00	
03/01/2022	03/31/2022	03/01/2022	GTO	\$1,100.00	\$1,100.00	First year escalation
04/01/2022	04/30/2022	04/01/2022	GTO	\$1,100.00	\$1,100.00	
05/01/2022	05/31/2022	05/01/2022	GTO	\$1,100.00	\$1,100.00	
06/01/2022	06/30/2022	06/01/2022	GTO	\$1,100.00	\$1,100.00	
07/01/2022	07/31/2022	07/01/2022	GTO	\$1,100.00	\$1,100.00	
08/01/2022	08/31/2022	08/01/2022	GTO	\$1,100.00	\$1,100.00	
09/01/2022	09/30/2022	09/01/2022	GTO	\$1,100.00	\$1,100.00	
10/01/2022	10/31/2022	10/01/2022	GTO	\$1,100.00	\$1,100.00	
11/01/2022	11/30/2022	11/01/2022	GTO	\$1,100.00	\$1,100.00	
12/01/2022	12/31/2022	12/01/2022	GTO	\$1,100.00	\$1,100.00	
01/01/2023	01/31/2023	01/01/2023	GTO	\$1,100.00	\$1,100.00	
02/01/2023	02/28/2023	02/01/2023	GTO	\$1,100.00	\$1,100.00	
03/01/2023	03/31/2023	03/01/2023	GTO	\$1,210.00	\$1,210.00	Second year escalation
04/01/2023	04/30/2023	04/01/2023	GTO	\$1,210.00	\$1,210.00	
05/01/2023	05/31/2023	05/01/2023	GTO	\$1,210.00	\$1,210.00	
06/01/2023	06/30/2023	06/01/2023	GTO	\$1,210.00	\$1,210.00	
07/01/2023	07/31/2023	07/01/2023	GTO	\$1,210.00	\$1,210.00	
08/01/2023	08/31/2023	08/01/2023	GTO	\$1,210.00	\$1,210.00	

Start Date	End Date	Due Date	Payment Type	Amount (with initial Index Rate 10)	Amount (with new Index Rate 20, switched on 27th Nov, 2023)	Yearly escalation
09/01/2023	09/30/2023	09/01/2023	GTO	\$1,210.00	\$1,210.00	
10/01/2023	10/31/2023	10/01/2023	GTO	\$1,210.00	\$1,210.00	
11/01/2023	11/30/2023	11/01/2023	GTO	\$1,210.00	\$1,210.00	<i>Index Rate switched or rate changed (27 November 2023)</i>
12/01/2023	12/31/2023	12/01/2023	GTO	\$1,210.00	\$1,210.00	
01/01/2024	01/31/2024	01/01/2024	GTO	\$1,210.00	\$1,210.00	
02/01/2024	02/29/2024	02/01/2024	GTO	\$1,210.00	\$1,210.00	
03/01/2024	03/31/2024	03/01/2024	GTO	\$1,331.00	\$1,452.00	Third year escalation
04/01/2024	04/30/2024	04/01/2024	GTO	\$1,331.00	\$1,452.00	
05/01/2024	05/31/2024	05/01/2024	GTO	\$1,331.00	\$1,452.00	
06/01/2024	06/30/2024	06/01/2024	GTO	\$1,331.00	\$1,452.00	
07/01/2024	07/31/2024	07/01/2024	GTO	\$1,331.00	\$1,452.00	
08/01/2024	08/31/2024	08/01/2024	GTO	\$1,331.00	\$1,452.00	
09/01/2024	09/30/2024	09/01/2024	GTO	\$1,331.00	\$1,452.00	
10/01/2024	10/31/2024	10/01/2024	GTO	\$1,331.00	\$1,452.00	
11/01/2024	11/30/2024	11/01/2024	GTO	\$1,331.00	\$1,452.00	
12/01/2024	12/31/2024	12/01/2024	GTO	\$1,331.00	\$1,452.00	
01/01/2025	01/31/2025	01/01/2025	GTO	\$1,331.00	\$1,452.00	
02/01/2025	02/28/2025	02/01/2025	GTO	\$1,331.00	\$1,452.00	
03/01/2025	03/31/2025	03/01/2025	GTO	\$1,464.10	\$1,742.40	Fourth year escalation
04/01/2025	04/30/2025	04/01/2025	GTO	\$1,464.10	\$1,742.40	
05/01/2025	05/31/2025	05/01/2025	GTO	\$1,464.10	\$1,742.40	
06/01/2025	06/30/2025	06/01/2025	GTO	\$1,464.10	\$1,742.40	
07/01/2025	07/31/2025	07/01/2025	GTO	\$1,464.10	\$1,742.40	
08/01/2025	08/31/2025	08/01/2025	GTO	\$1,464.10	\$1,742.40	
09/01/2025	09/30/2025	09/01/2025	GTO	\$1,464.10	\$1,742.40	
10/01/2025	10/31/2025	10/01/2025	GTO	\$1,464.10	\$1,742.40	
11/01/2025	11/30/2025	11/01/2025	GTO	\$1,464.10	\$1,742.40	
12/01/2025	12/31/2025	12/01/2025	GTO	\$1,464.10	\$1,742.40	
01/01/2026	01/31/2026	01/01/2026	GTO	\$1,464.10	\$1,742.40	
02/01/2026	02/28/2026	02/01/2026	GTO	\$1,464.10	\$1,742.40	
03/01/2026	03/31/2026	03/01/2026	GTO	\$1,610.51	\$2,090.88	Fifth year escalation
04/01/2026	04/30/2026	04/01/2026	GTO	\$1,610.51	\$2,090.88	
05/01/2026	05/31/2026	05/01/2026	GTO	\$1,610.51	\$2,090.88	
06/01/2026	06/30/2026	06/01/2026	GTO	\$1,610.51	\$2,090.88	
07/01/2026	07/31/2026	07/01/2026	GTO	\$1,610.51	\$2,090.88	
08/01/2026	08/31/2026	08/01/2026	GTO	\$1,610.51	\$2,090.88	

Start Date	End Date	Due Date	Payment Type	Amount (with initial Index Rate 10)	Amount (with new Index Rate 20, switched on 27th Nov, 2023)	Yearly escalation
09/01/2026	09/30/2026	09/01/2026	GTO	\$1,610.51	\$2,090.88	
10/01/2026	10/31/2026	10/01/2026	GTO	\$1,610.51	\$2,090.88	
11/01/2026	11/30/2026	11/01/2026	GTO	\$1,610.51	\$2,090.88	
12/01/2026	12/31/2026	12/01/2026	GTO	\$1,610.51	\$2,090.88	
01/01/2027	01/31/2027	01/01/2027	GTO	\$1,610.51	\$2,090.88	
02/01/2027	02/28/2027	02/01/2027	GTO	\$1,610.51	\$2,090.88	

Lease Business Process Terminology

Lease: An agreement whereby the owner of real property (the landlord or lessor) gives the right of possession to another (the tenant or lessee) for a specified period of time (the terms of the lease) and for a specified consideration (the rent or lease payments).

Straight line: The straight-line method implies that the cash flows in the form of fixed lease payments over the lease term are aggregated and divided by the lease term to arrive at the monthly income or expense. This results in an equal impact in the income statement in each reporting period irrespective of the fact that cash flows differ.

Escalation: A clause in a lease which provides for the rent to be increased to reflect changes in expenses paid by the landlord such as real estate taxes, or operating costs. An escalation can be accomplished by several means such as fixed periodic increases, increases tied to the Consumer Price Index, or adjustments based on changes in expenses paid by the landlord in relation to a dollar or base year reference.

In addition to the terminology above, you can find more information about the special fields that can be used on Lease business processes in the *Unifier Data Reference Guide*.

Lease Business Process Use Cases

The following are examples of how you can use the Lease BP to manage leases.

Various Payment Terms for the Same Lease

You start a lease on December 1, 2003, with a commencement date of April 1, 2004, and a termination date of March 28, 2005.

Payment Term 1: A term of \$4,000 per month for rent begins on April 1, 2004, and ends on March 28, 2005. The due day is 1.

Payment Term 2: A term of \$300 per month for common area maintenance (CAM) starts on April 1, 2004, and ends on March 28, 2005. The due day is 1.

Payment Term 3: A semi-annual term of \$500 for taxes begins on September 1, 2004, and ends on March 28, 2005. The due day is 1.

Different Payment Allocations for Multiple Tenants

For accounting purposes, the rent for a building is to be charged back to departments, based on each department's space usage. The Marketing Department uses 60% of the space and IT uses 40% of the space. If the total rent for the building is \$5000 per month, Marketing would be charged \$3000 and IT would be charged \$2000 per month.

Semi-annual Lease Terms with Proration

The lease term start date is February 15, 2002, the end date is January 1, 2003. The frequency is semi-annual, and the amount is \$1,000 per term. The Proration Rule accounts for the date difference in days, with the end date included.

Handling Rent Pre-payments

The lease term start date is January 1, 2003, the end date is June 30, 2003. The frequency is monthly, and the amount is \$6,000 per month. The due day is 1. The pre-payments are the first and last month's rent.

Straight Lining with Quarterly Payments

The lease begins mid-month on 15 January 2002 and ends mid-month on 14 January 2003.

- Rent for the first quarter is \$100
- Rent for the second quarter is \$200
- Rent for the third quarter is \$300
- Rent for the fourth quarter is \$400
- Rent for the fifth quarter is \$500

The rent abatement of \$10 is given only in the first month. The rent is scheduled to be paid in full at the beginning of each month.

Note

Information about Straight-line Payment Adjustments: Straight-line payments can be modified if the business process design includes special data elements (fields). These fields can override the start and end dates of a lease, add or subtract days from the lease term, or add or subtract specific dollar amounts to the lease amount. These adjustment fields do not change the line item dates or amounts. The system takes these adjustments into consideration when it calculates the straight-line payments after you select Save or Submit. When you open the form in view mode, you will see the adjustments reflected on the Payment Schedule you open from the Payment Schedule button on the toolbar.

Straight Lining with Monthly Payments

The terms are a 12-month lease, with the first month rent-free. The rent is \$1000 per month. Real estate rules (FASB 13) require that this rent be normalized (or straight-lined) across the entire lease term.

Lease Term of 20 Years with Escalation

The base, or primary, lease term is 20 years. During the base lease term, the monthly lease payment is \$10,000 for the first 10 years and \$12,000 for the next 10 years.

Note

Payment Schedule calculations for Lease base frequencies and Escalation frequencies will differ slightly depending on the frequency used. For example, a 10 year lease escalating each year will differ slightly from a lease escalating every 52 weeks (as opposed to a lease escalating every 365 days). Over a 10 year period, if the lease calculation is done in days, there can be years with more than 365 days. Also, if the calculation done in weeks, 52 weeks might be a day or two short of a full year depending on the year used.

Escalation Based on Index Rate

Set lease payments to increase based on the Consumer Price Index of a country. This escalation method allows lessors to increase the rent by aligning it with inflation and without going into an agreement using a pre-determined % escalation. On the Lease Business Process, you can specify the index rate to use, the payment schedules are updated whenever the index rate is changed.

Creating and Managing Lease Business Processes

To create a Lease business process (BP) record:

1. Navigate to the Lease BP log.
2. In the Lease BP log, select **Create**. The Lease form opens.
3. Complete the Lease BP record. Add the basic lease information to the upper form, including the lease name, number, class of lease, and other details. Add the routing information for the workflow if the BP is a workflow BP.
4. On the detail form, add the payment terms in the Payment Setup tab. Select **Add** to add a line item for each aspect of the lease for which you want to create a payment schedule. For example, you can add individual line items for rent, maintenance costs, and taxes.
5. Select **Save**.

To edit a line item:

If the Lease BP form is still a Draft, you can edit a line item at any time.

1. Open the grid by selecting the **Add** button.
The Line Items window opens.
2. Enter the payment general setup, payment trigger dates setup, straight line settings, payment escalation setup, and the cost account setup.
3. Make changes, and select **Save**.

To remove a line item:

In the Lease BP form, select the line item to remove, and select **Remove**.

If you have created an allocation template, you can link the record to it. See [Creating and Using an Allocation Template](#).

Creating and Using an Allocation Template

If the rent you charge (or pay) should be pro-rated for different tenants in a building, you can create an Allocation Template and assign it to a Lease BP. The template designates a breakdown of the costs for each tenant and the system uses this breakdown to create the payment calculations.

For example, for accounting purposes, the rent for a building is charged back to departments, based on each department's space usage. The Marketing Department uses 60% of the space and IT uses 40% of the space. If the total rent for the building is \$5000 per month, Marketing is charged \$3000 and IT is charged \$2000 per month.

You can access Allocation Templates when a Lease BP is in View or Edit mode.

Creating an Allocation Template

To create an Allocation Template for a Lease BP:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the Lease BP (in **Edit** mode) that you want to create the template for.
4. From the **More Actions** menu, select **Allocation**.
5. In the **Allocation Templates** window, select **+ Create**.
6. In the **General** section of the right pane, complete the following fields:
 - **Allocation Name:** Enter a name for the template.
 - **Payment Type:** Select the payment type that should be used for the allocations.
 - **Allocation Type:** Select the type of allocation to use for the pro-ration.
 - To prorate the lease according to the square footage each tenant occupies, select **Area**.
 - To allocate a fixed cost to each tenant, select **Fixed**.
 - To pro-rate the lease according to the percentage you specify, select **Percent**.
7. To add cost codes to the template, select **+ Create**.

You can add multiple cost codes individually by using the + option. You can also use Export to download a CSV file, update the file, and then use Import to add the codes.
8. Complete the **Allocation Value** field.
 - If you selected **Percent**, enter the percentage of the lease that should be paid by the tenant. The values in all these fields must add up to 100%.
 - If you selected **Fixed**, enter the lease amount that should be paid by the tenant.
 - If you selected **Area**, enter the square footage for which the tenant is paying.
9. To add additional templates, select **Save & Add New**, or select **Save** to save your changes and close the window.

The template, which you can identify by the Allocation Name, is added to the list that you use for the record or line items that you create.

Updating an Allocation Template

If a Lease BP record is in Edit mode, you can make changes to the Allocation Templates. If the record is in View mode, you can view the templates, but you cannot update them.

To update an Allocation Template:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the applicable Lease BP record.
4. From the **More Actions** menu, select **Allocation**.
5. In the **Allocation Templates** window, select the applicable template.
6. Make the applicable changes, and then select **Save**.

Deleting an Allocation Template

To update an Allocation Template:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the applicable Lease BP record.
4. From the **More Actions** menu, select **Allocation**.
5. In the **Allocation Templates** window, select the applicable template, and select **Delete** .
6. When the confirmation message appears, select **Yes** to continue.

Viewing, Printing, or Exporting the Payment Schedule

The Lease BP creates the Regular Payment Schedule and the Straight Line Schedule, which lets you view your future lease payments.

The lease payment schedule is generated automatically after you add or change a line item for the Lease BP. The schedule is time stamped, and is overwritten each time you add or modify a line item. If the record is in View mode, you can view the schedule. You can capture a particular schedule by exporting it to a PDF file.

To view or export a payment schedule:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the applicable Lease BP record.
4. From the **More Actions** menu, select **Payment Schedules**, and choose **Regular** or **Straight Line**.

The payment schedule shows currency amounts to two decimal places (for example, \$3120.33).

The Regular Payment Schedule lists the lease payments as calculated using Frequency, Start Date, and End Date.

The Straight Line Payment Schedule lists the lease payments averaged over all of the line items of the payment terms for the lease over the life of the lease. You can specify which line items that you want to include in the Straight Line Schedule by selecting the Straight Line radio button on the detail form of each line item to Yes for each item you want listed in the schedule.

5. To print or export the schedule rows or selected rows, select **Print** , and complete one of the following:
 - To save the file in PDF format, select **Print**.
 - To export the file, select **Export TO CSV** or **Export To Excel**.

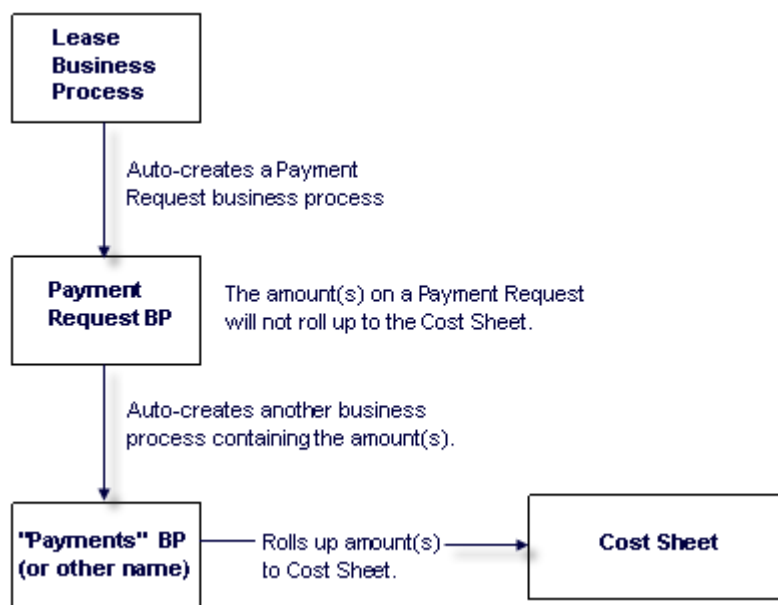
Auto-create an Invoice or Payment Request from a Lease Business Process

Lease business processes are typically used to auto-create invoices (if you are the landlord) or payment requests (if you are the lessee). For example, a lease business process with a payment schedule can use auto-creation to generate payment request records at appropriate days in advance of the payment due date to be routed for approval.

Note

You receive a single auto-created line item based on the defined grouping criteria.

For cost purposes, these invoices/payment requests do not roll up amounts to the Cost Sheet. To roll up these amounts, the invoice/payment request should, in turn, auto-create another business process for the purpose of rolling up the amount(s) to the Cost Sheet.



Allocation Templates: Whenever a Lease BP auto-creates an invoice or payment request, the system will check for an Allocation Template. If one is linked to the Lease BP, the system will

copy it to the invoice or payment request, and use it to calculate the payments. Each allocation will appear as a separate line item under the Standard tab of the invoice or payment request.

Taking a Snapshot of a Lease

Use the lease snapshot feature to create a historical picture of the lease that you can preserve before the lease is amended or otherwise modified. The snapshot can be created automatically when the Lease BP reaches a certain status, or you can create it manually whenever necessary.

To take a snapshot of a lease:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the applicable Lease BP record in Edit mode.
4. From the **More Actions** menu, select **Create Snapshot**.
5. In the **Create Snapshot** window:
 - a. Enter a **Title** for the snapshot.
 - b. (Optional) Enter a **Description** for the snapshot.
 - c. Select **Create**.
6. In the notification message confirming the snapshot has been successfully created, select **OK**.

Viewing Snapshots of a Lease

To view the snapshots for a lease:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the applicable sub-node, such as **Leases**.
3. From the **Leases** log, open the applicable Lease BP record in View mode.
4. From the **More Actions** menu, select **Snapshots**.
5. To open a snapshot, select its title to download a PDF version of the snapshot.

Calculating Net Present Value (NPV)

If the data elements corresponding to the Net Present Value (NPV) are included in Lease BP design, the following information will be available:

Annual discount rate	NPV Amount	Comments
Detail Form	Detail Form	The NPV amount for each payment setup will be calculated individually using the discount rate present on the respective setup. The calculated amount will then be populated into the NPV present on each payment setup respectively.
Detail Form	Upper Form	The NPV amount for each payment setup will be calculated individually using the discount rate present on the respective payment setup. The summarized NPV amount will be populated on the upper form.
Upper Form	Detail Form	The NPV amount for each payment setup will be calculated using the discount rate present on upper form. The calculated amount will then be populated into the NPV present on each payment setup respectively.
Upper Form	Upper Form	The NPV amount for each payment setup will be calculated using the discount rate present on the upper form and the summarized amount will be populated on the upper form.
Upper Form, Detail Form	Upper Form	The NPV amount for each payment setup will be calculated using the discount rate present on each setup. If the rate is not present on the payment setup, the system will use the rate present on the upper form. The summarized amount will then be populated on the upper form.
Upper Form, Detail Form	Detail Form	The NPV amount for each payment setup will be calculated using the discount rate present on the payment setup. If the rate is not present on the payment setup, the system will use the rate present on the upper form. Calculated NPV amount for each payment setup will be populated in the respective form.
Detail Form	Upper Form, Detail Form	The NPV amount for each payment setup will be calculated individually using the discount rate present on the payment setup. The NPV for each payment setup will be populated in the respective form. Also, the summarized amount will be populated in the upper form.

Annual discount rate	NPV Amount	Comments
Upper Form	Upper Form, Detail Form	The NPV amount for each payment setup will be calculated using the discount rate present on the upper form. The NPV for each payment setup will be populated in the respective form. Also, the summarized amount will be populated in the upper form.

If you have added the following data elements, you will be able to calculate the Net Present Value (NPV):

- Annual discount rate
- NPV Amount
- Include in Net Present Value

The NPV calculation will be triggered after the following events:

- Finish editing
- Index rate change (at the end of the day)
- Index rate change through user interface (UI) or Integration.
- Reverse Auto-population of the base lease record.

After you finish editing, the system refreshes values in the Regular Line Schedule and Straight Line Schedules.

For a Workflow BP, the system calculates the NPV value when Payment Schedule is refreshed. This feature applies to the Line Item updates, as well.

The system checks changes in the following values, daily:

- Index rate
- Payment schedules
- Discount rate

If there are any changes in the values of the fields above, the system triggers NPV recalculation based on the updated values.

Reservation Business Process

Some objects in the system can be reserved for use. For example, you could reserve a piece of equipment that needs to be used at a project site for three weeks.

You can reserve the following objects:

- Assets
- Document Manager records
- Configurable manager objects
- The object of a line item or simple type business processes (both workflow and non-workflow)

When these objects (assets, shells, spaces, and so on) are designed, they can be "calendar enabled," which means that the business process form for these objects will show a calendar option, and the object will be available for reservation.

In conjunction with these calendar-enabled objects, the system provides a reservation type business process which you can use to reserve these objects. A reservation BP is considered a type of cost BP in that it integrates with the Cost Manager to use cost codes at the company and project/shell level.

There are two ways to make a reservation:

1. **Using a reservation business process**
By using a reservation business process (that has been designed and configured for your use), you can specify the date and time of the reservation. Depending on its design, this business process can also:
 - Display availability and identify scheduling conflicts
 - Denote the reservation as "tentative" or "confirmed"
 - Gather cost information
 - Specify additional details, such as the number of attendees, A/V requirements, food catering, and so on
 - Show the reservation as a recurring event.
 - Trigger another business process, such as a work order.
2. **Using a quick calendar**
By using the quick calendar option that is available on any business process (that was designed to be calendar-enabled), you can open the calendar and enter the parameters for your reservation.

Using a Reservation Business Process

The reservation business process is similar to any other business process. Fill in the upper form fields as necessary, and add line items for detail information about the reservation.

The upper form of the reservation business process should include **From Date** and **To Date** fields, which you need to complete, and should also include one or more data pickers, where you choose the object or objects that you want to reserve. In the example above, the room and projector fields are the data pickers from which you can select multiple objects to reserve for this event.

The reservation business process can be designed to include additional information about this reservation, such as food catering for the event.

The reservation business process has two special features:

- **Schedules**
 - Enables you to open the Schedules window and view the reservation schedule for the objects you are reserving with this reservation BP.
 - Is useful for comparing the availability of multiple objects being booked for the same event, and to resolve conflicts or identify openings in the schedule.
- **Recurrence**
 - Enables you to specify how often this reservation should be created. When you use this options, the system continues to automatically reserve the object according to the specifications you select with this feature.

The following describes the reservation business process log (Standard View):

From your project, go to your reservation BP, and open the reservation BP log. On the left pane, a set of toolbar options and a list of records, if available, are displayed. On the right pane, the following tabs explain more information about each item on the list:

- **Record Details** tab
- **Workflow Progress** tab
- **Attachments** tab

The following explains the toolbar options of the reservation BP log:

Option	Description
Create	Enables you to create a new reservation BP. From the Requester Information block, you can select the Space data picker field to open the Usable Space Reservation window which contains a calendar that enables you to determine the duration of the reservation.
Actions	Enables you to conduct the following on a selected record, or multiple records: • Import • Export CSV Template • Export Microsoft Excel Template • Create From Template • Bulk Edit • Print • Transfer Ownership • Terminate Record
View	The View data picker enables you to arrange the list of records listed, as follows: • Records Created by Me • Records Received by Me • Records Created and Received by Me • Records from My Company In addition, the View data picker enables you to: • Create New View • Manage Views
Edit View	To edit, or customize, the view of the log.
Refresh	To refresh the data displayed on the log.
Print	To print a record.
Search	To search for a record.
Find on Page	To find a record based on a column heading.
Help	To access documentation.

The following explains the columns on the reservation BP log:

- **Record Duration Status** (Calendar icon)
- **Attachments** 
- **Record Number**
- **Reservation name**
- **Space**

- **From Date**
- **To Date**
- **Amount**
- **Status**
- **Creation Date**
- **Creator**

For each item on the list, the *gear menu* () enables you to perform the following:

- **Open**
- **Copy with Attachments**
- **Copy without Attachments**
- **Print**
- **Transfer Ownership**
- **Terminate Record**

Using the Schedules Feature

The Schedules feature is most useful for resolving scheduling conflicts.

When you open a reservation BP record, the BP record page that opens contains the following menu options (on the upper-right corner):

Option	Description
Send	Enables you to send the BP to the next step.
Save Draft	Enables you to save any changes that you have made.
More Actions	Enables you to complete, set up, or access any of the following operations: • Cancel Reservation • Export Line Item Template • Print – HTML – PDF – Custom • Recurrence • Reload • Review – Review – AutoVue Review – Open in Office for the web • Schedules (See below for more information) • Transfer Ownerships • Undo Accept Task • Help • Close

When you open a reservation BP record, the BP record page that opens contains the following tabs:

- **<BP name> Reservation Details** tab

This tab enables you to see the details of the BP and access the following tabs for the record that you had selected:

- **Attachments**
- **Comments**
- **Linked Records**
- **Lined Mail**
- **Workflow Progress**
- **Audit Log**
- **Reference Records**
- **Reservation Charges** tab
This tab enables you to view and work with all the charges related to your selected record.

When you open a record, select **More Actions**, and select **Schedules**, a new window opens which contains the following tabs:

- **Schedule:** This tab enables you to set the schedule for the reservation. You can see and set the reservation period and see any conflicts.
- **Recurrence:** This tab enables you to set the frequency and range of the reservation. See [Making a Recurring Reservation](#).

Making a Recurring Reservation

The reservation business process includes a "recurrence" feature, where you can specify how often this reservation should be created. The system will continue to automatically reserve the object according to the specifications you select with this feature.

To make a recurring reservation (Standard View):

1. Open a record.
2. From the **More Actions** menu, select **Schedules**.
3. In the new window, use the following tabs to create the reservation:
 - **Schedule:** Use this tab to set the schedule for the reservation. You can see and set the reservation period and see any conflicts.
 - **Recurrence:** Use this tab to set the frequency and range of the reservation.
Recurrence Daily

In the **Recurrence** tab, when the "Recurrence On" checkbox is selected, the Frequency and Range of Recurrence sections will be displayed.

In case the checkbox is deselected, the two sections are not displayed.

In case of an existing recurrence, if the checkbox is deselected, all recurrences will be removed when you select **Save**. The interaction is the same as that occurs on selecting 'Remove Recurrence' button in existing screen.

Recurrence Weekly

In case of an existing recurrence, if the checkbox is deselected, and then it is checked again (without selecting **Save**), the values present for the frequency and range of recurrence sections will remain the same, as before.

Auto-Creating Another Business Process From the Reservation

If the reservation business process is designed to do so, it can automatically create one or more new business processes. For example, for a room reservation, the Reservation business process could auto-create a work order for catering two days before the event, and auto-create an "action item" follow-up business process that would go to all attendees eight hours after the event. To trigger the auto-creation, the form (either the upper form, or a line item form) will contain fields you must fill in.

If a reservation business process is designed to auto-create another business process, complete the following fields:

In this field:	Do this:
Before/After	Specify whether the system should auto-create the business process Before or After the reservation event.
Time (Days)	Specify the number of days before/after the event this business process should be created. For example, the Work Order in the illustration should be created 2 days after the event.
Time (Hrs)	Specify the number of hours before/after the event this business process should be created. For example, the Work Order in the illustration should be created 8 hours after the event.
Time (Min)	Specify the number of minutes before/after the event this business process should be created. For example, the Work Order in the illustration should be created 30 minutes after the event.
Trigger Date	This is a read-only field. Initially, it will display the date of the reservation. When you fill in the Time fields, the system will recalculate the trigger date according to the values you entered and display it in this field.

Auto-creation and recurring reservations: For auto-creation on a recurring reservation, the system re-evaluates the trigger date for each recurrence. The Reservation business process will show a hyperlink to only the last record created; however, you can see all the records created by opening the View References window. You cannot manually auto-create a business process for a recurring reservation.

How the Data Pickers Work on a Reservation Business Process

The data pickers designed for Reservation business processes differ from most other data pickers in that they are very interactive: You can check availability and change reservation dates and times from the picker itself.

Note

This works best if you are reserving a single object, such as a room. If you are reserving multiple objects for the event, any time you change the date or time frame for any one of the objects, the system will reflect that change for all the objects, and you are likely to encounter scheduling conflicts this way. To change the dates or time frames of multiple objects on a reservation, use the Schedules feature.

The data pickers for reservable objects show the object in a schedule-like window:

To select a reservable object from the picker:

Double-click the object you would like to reserve on the leftmost column.

To change a reservation time on the picker:

At the top of the data picker window, the **Reservation From** and **To** fields show the time frame you specified in the **From Date** and **To Date** fields on the Reservation form. This time frame is also denoted by the green and red lines on the schedule. If the object shows a reservation conflict at that time, you can change the time frame on the picker before you select the object.

To change the time frame, drag the green and red lines to the time frame you want. The system will change the **Reservation From/To** fields at the bottom of the window to reflect your change. When you select **Open** to select the object to reserve, the system will update the Reservation record with the new time.

Using Quick Calendar Entry on a Business Process

The Quick Calendar is available on any business process that was designed to include the calendar feature (calendar-enabled). From the business process record, you can open the calendar and enter a reservation.

Any entry you make on the calendar will update the record.

Note

The calendar does not show draft or terminated records.

To make a reservation using a Quick Calendar Entry:

1. From the log, open the business process record.
2. From the toolbar, select **Calendar**. The Calendar window opens.
By default, the calendar opens in the "Month" view. You can change this to a day or week view if you want using the tabs at the top of the calendar. If there are more reservations

than are visible on any day, select the down arrow at the bottom of the day cell to see the rest of the reservations.

The calendar shows confirmed and tentative reservations in color. The current day is highlighted blue.

3. Select the day you want to make the reservation for. If you are using the Day view of the calendar, select the beginning hour for the reservation.
The system displays a reservation window.
4. Fill in the Name, From, and To fields.
5. In the Status field, specify whether this reservation is tentative or confirmed.
6. Select **Create Event**.

The system adds the reservation to the calendar.

To view all reserved objects in a log:

If you want to see all the reserved objects in a log, select the Calendar button above the log. The system displays a calendar showing all the reserved objects from that log. The Calendar button will not appear above the log unless there are calendar-enabled objects in the log.

To view and edit a reservation:

1. Open the record of the business process that is reservable, and select **Calendar**.
2. On the calendar, select the reservation bar. The system displays a summary details window.
3. To see or edit reservation details, select the details link. The system displays the reservation window.
4. Edit the details, if necessary, and select **Update Event**.
5. To delete the reservation, select the delete link.

To print a calendar:

1. Open the record of the business process that is reservable, and select **Calendar**.
2. In the upper-left corner, select **Print** .
3. In the Calendar Print Preview window, select **Print**.
The system displays the Print window, where you can choose the printer and other options.
4. Select **Print**.

Canceling a Reservation

To cancel a reservation:

1. Open the reservation business process you want to cancel.
2. From the drop-down menu () choose **Cancel Reservation**. The system displays a Cancel Reservation window.
On this window, the system tells you exactly what will be removed from the calendars, and provides an area for notes on the cancellation. It shows:
 - Any business processes this reservation auto-creates. These will also be canceled.
 - All the objects associated with this reservation that will be canceled. In the example above, the room is being canceled as well as the projector that was reserved for the room.

- Additional details about the reserved object being canceled. You can access these by selecting the hyperlinked ID next to the name of the reserved object.
3. In the **Cancellation Notes** area, enter any applicable notes.
 4. Select **Done**.

Entering Values in Fields

This topic provides information about entering data in fields.

Field	Entering Data
Date Picker	When entering a date in the Date or Date Only pickers, the "Today" and "Now" options are not available.
Date Only Picker	When entering a date in the Date or Date Only pickers, the "Today" and "Now" options are not available.
Drop-down (Pull Down)	The quick search does not have a search bar, and by default, the cursor is placed at the end of 'Search.' The label must be cleared before entering value.

Business Processes with AI Features Enabled (Cloud Only)

The system includes the following features that take advantage of artificial intelligence (AI) when used with business processes (BPs):

[Video](#)

- **Records Summarization:** This feature provides individuals performing different roles within your organization the opportunity to highlight information, identify challenges, and review specific details.
- **Task Assist and Progress Guide:** This feature adds two tabs, **Task Assist** and **Progress Guide**, to individual workflow BP records (this feature is not available for non-workflow BPs). These tabs provide insight into workflow BPs by illuminating the decision-making process and identifying steps you might need to take.

Using Artificial Intelligence (AI) Features

Variability of Summaries Generated by AI

Because of how AI large language models (LLMs) function, the summaries generated might vary, even when you generate summaries using the same input data and output options. The AI model makes billions of probabilistic choices when generating text, similar to how a human might rephrase the same idea between different conversations. This approach is by design, with the intention of making the summaries feel natural and dynamic, rather than repetitive and stale. While the wording, ordering, and formatting might vary between summaries, Oracle expects that the core information and accuracy is correct.

Translation of International Data Generated by AI

When the data submitted for summarization is in a language other than English, the model first performs a translation to derive meaning. It then generates the summary in English, leveraging its capability for natural language generation (NLG). This approach provides cohesive summaries of the information, regardless of language.

However, it is important that you are aware of the inherent limitations of machine translation, particularly when it involves technical or domain-specific information. The AI feature relies on patterns learned from vast datasets, but it can occasionally struggle with highly specialized terminology, jargon, or cultural nuances that are not well-represented in its training data. This can lead to inaccuracies or a loss of precise meaning. For this reason, Oracle does not guarantee the accuracy of the summaries when the original data contains languages other than English.

Using Summarization (Cloud Only)

If your Company Administrator enabled **Records Summarization** with AI and your designer configured and deployed the applicable business process (BP) designs, you can use the AI feature to summarize information from the following types of BPs:

- Cost
- Document
- Line Item
- Project/Shell Creation
- RFB
- Simple
- Text

This feature provides individuals performing different roles within your organization the opportunity to highlight information, identify challenges, and review specific details. For example:

- A Project Manager can summarize safety incident reports in preparation of project status reports.
- A Project Coordinator can summarize daily report information while preparing weekly status reports.
- A Project Manager can summarize meeting minutes and subsequently focus on the higher priority items.
- A Contracts Administrator can summarize Request for Information (RFI) responses from a specific vendor and subsequently focus on the issues reported by the vendor.

You can generate summaries from a specific project/shell, and you can use the Master Log to generate summaries across projects/shells. Using BP summarization at the portfolio level offers additional advantages, such as:

- Providing cross-project visibility into key insights and trends across projects, which supports more informed strategic decision-making.
- Highlighting recurring risks or emerging opportunities, enabling proactive mitigation or exploitation before issues escalate or advantages are overlooked.

Even if the feature is disabled at the company level, your administrator can still configure summarization if the BP design supports it.

Using AI to Summarize a BP (Cloud Only)

Using the **Records Summarization** feature, you can:

- Generate a summary of the records listed in the log for a specific type of BP.

- Tailor the output using the provided data elements (DEs) that are relevant to the summary that you want to produce.
- Define the level of detail to include.
- Define the output format.
- Use copy-and-paste functionality to copy data into other applications or documents.
- Save a history of the summaries that you have generated.

When the feature is available, the toolbar of the applicable BP log includes a **Summarize Records** option. (If the option is not visible, it is because **Records Summarization** is disabled or enabled only for Company Users and you are a Partner User, because the BP is not configured for use with **Records Summarization**, or because the BP Type does not currently support **Records Summarization**.)

You can configure settings that you want to use for the summary prior to generating it, or you can generate a summary and then change the settings. You can also save and delete summaries.

Configuring Settings for a BP Summary (Cloud Only)

Changes that you make to the settings for a BP Summary apply only to your view of a specific BP and are saved automatically. This applies to summaries generated from a specific project/shell and to those generated from the Master Log - Business Processes node. (Other users can configure their own views.) You can configure the settings before generating a summary or after. Whenever you regenerate the summary, the last saved version of the settings is used.

To configure the settings for a BP Summary:

1. Choose one of the following:
 - To configure settings before generating a summary:
 - a. Go to the project/shell tab, and switch to **User** mode.
 - b. In the left Navigator, select **Logs**, and then select the applicable BP to open the BP log.
 - c. From the toolbar, select **Actions**, and then select **View Summarization Settings**.
 - To configure settings after generating a summary, in the **Summary** panel, select  **Settings**.
2. Select the applicable **Summary Length**.
3. Select the applicable **Output Format**.
4. For **Summarization Data Elements**, select up to five data elements (DEs) that you want to use.
You can use up to five of the elements that were included as part of the BP configuration, or you can remove those elements that you do not want to include in the summary.
5. If applicable, for **Summarization Grouping Element**, select the Pull Down DE that you want to use.
6. If you intend to generate the summary from the **Master Log - Business Processes** node and you do not want BP records grouped by project/shell, disable the **Enable Grouping by Project/Shell** option.
7. Select **Save** or **Save and Regenerate**.

Note

If your administrator subsequently removes any of the selected DEs, one of following scenarios occurs:

- If your summary contains other valid DEs, the summary is created or updated using the remaining DEs but omits the removed DEs.
- If your summary no longer contains any valid DEs, the selection is reset to the default settings used by the administrator.

In either case, you can update the summary to select up to five DEs that you want to use.

Generating a BP Summary (Cloud Only)

If you configure settings for a BP Summary prior to running it the first time or if you update the settings after running a summary, the latest settings are used to generate the summary. Otherwise, the default settings configured for the BP are applied.

To generate a BP Summary:

1. Select one of the following:

- To generate a summary for a specific project/shell, complete the following steps:
 - a. Go to the project/shell tab, and switch to **User** mode.
 - b. In the left Navigator, select **Logs**, and then select the applicable BP to open the BP log.
- To generate a summary for multiple projects/shells, complete the following steps:
 - a. Go to the **Home** tab.
 - b. In the left Navigator, select **Master Log - Business Processes**, and then select the applicable BP to open the BP log.

2. In the log, select the applicable records to include in the summary.

If you do not select any records, the system displays an error message and does not prepare a summary.

To filter the displayed list of records, select a view from the **View** list, or use **Search** or **Find on Page**.

3. From the toolbar, select **AI Summarize**.

The system displays a separate panel while it generates the summary. If this is the first time that you have used the option, the system uses the default settings configured for the BP. Otherwise, it uses the settings you have specified previously.

If you generate the summary from the **Master Log - Business Processes** node and the **Enable Grouping by Project/Shell** option is enabled, the information is grouped by project/shell.

After the summary is generated, a line is included below the content to indicate what settings were applied. The panel also includes additional options that you can use to:

- Change the  **Settings**. For more information, see [Configuring Settings for the BP Summary \(Cloud Only\)](#).
- **Save**  the summary.

- **Copy**  the summary to your computer's clipboard so that you can paste it into another document, such as a Microsoft Word file.

Saving, Viewing, Renaming, or Deleting a BP Summary (Cloud Only)

You can save a summary for up to 30 calendar days. You can then access the saved summary as often as you need to within the 30-day timeframe. You can also rename and delete saved summaries before the 30-day expiration is reached.

To save a BP Summary:

1. Generate a BP Summary.
See [Generating the BP Summary \(Cloud Only\)](#).
 2. In the **Summary** panel, select **Save** .
 3. In the **Saved Summaries** panel, complete the **Enter Summary Name** field, and select the check mark .
- The system displays saved summaries at the bottom of the Saved Summaries panel. They are listed in descending order by the date on which they were saved. You can use the list to view or delete a listed summary by selecting the ellipsis icon and selecting the applicable option. You can also access a list of recently saved summaries from the toolbar.

To view, rename, or delete a saved BP Summary, choose one of the following:

- If the **Saved Summaries** panel is open (that is, you have not closed it, or you ran a different summary):
 1. In the **PREVIOUSLY SAVED SUMMARIES** section, select the ellipsis icon next to the applicable summary.
 2. Select the applicable option: **View**, **Rename**, or **Delete**
- From the toolbar:
 1. Go to the shell tab, and switch to **User** mode.
 2. In the left Navigator, select **Logs**, and then select the applicable BP to open the BP log.
 3. From the toolbar, select **Actions**, and then select **View Saved Summaries**.
 4. Select the applicable summary.
 5. In the **Saved Summaries** panel, select **Rename** or **Delete**.

Using Task Assist and Progress Guide (Cloud Only)

If your Company Administrator enabled **Task Assist and Progress Guide** with AI, the system automatically activates and structures an AI panel for workflow BPs (this feature is not available for non-workflow BPs). The AI panel adds **Task Assist** and **Progress Guide** tabs to individual workflow BP records and tasks. You can use these tabs to answer questions such as:

- What is the topic of this workflow?
- What is the status of the workflow. That is, how many of the steps have been completed, and who was involved?
- Are there related issues that have arisen? For example, are there comments that have identified issues?

- How long has the workflow been in process?

Summaries are retained for 30 calendar days.

When your administrator enables access to **Task Assist and Progress Guide**, it is provided globally, throughout the system, and the administrator does not have to update specific permissions for individual users. However, the permissions assigned to specific users and workflow BPs determine what information is displayed when the AI options are accessed. The permissions also determine what information is actionable and what is designated read-only.

- For **Task Assist**, you must have access to both the Audit Log and workflow progress. If you are an assignee, you can use the **Tasks** node in the left Navigator from the **Company Workspace** tab (**User** mode) or project/shell tab (**User** mode). If you only have **View** permission, you can open the applicable BP record while in **User** mode from the **Company Workspace** tab or project/shell tab.
- For **Progress Guide**, you must have access to the Audit Log. **Progress Guide** is available by opening the applicable BP record while in **User** mode from the **Company Workspace** tab or project/shell tab.

Details About Task Assist

Task Assist provides a different summary based on where you are in the progress of the workflow BP. For example, the first time you access Task Assist, it uses the Create step to generate a summary and describe what you should do next. As the BP moves through the workflow, Task Assist generates a new summary based on the previous step. If you are accessing a previously accessed step, Task Assist highlights what changed from the first time you accessed it, such as new comments or attachments.

Access to the summary is hidden after the BP proceeds to the next step in the workflow. If the BP does not move to the next step for 30 days, the summary is deleted, and you can generate a new one.

Details About Progress Guide

Progress Guide displays a summary of all steps in the workflow, whether it is in progress or is complete.

Any changes to a step in the workflow trigger deletion of the summary for that step. Summaries for previous steps are hidden after 30 days, no matter how long it takes to complete the BP workflow. If the workflow moves from a Complete status to In Progress, an Action Form initiates a change in the status, or the Audit Log notes more changes, the summary highlights the changes for you.

Using Task Assist to See What You Need to Do and What Has Been Done (Cloud Only)

While a workflow BP is in progress, you can use Task Assist to view what another user completed prior to you, determine what you need to do, or verify that nothing has changed since you initially generated a summary.

To use Task Assist:

1. Go to the **Company Workspace** or project/shell tab, and switch to **User** mode.
2. From the left Navigator, select **Tasks**.
3. In the **Tasks** list, select or accept the applicable task.
4. On the right pane, select the **Task Assist** tab, and select **View Task Summary**.

- If this is the first time that you are accessing the tab or if more than 30 days have elapsed since you last accessed the tab, the system generates a summary.
- If you have generated a summary within the past 30 days and changes have occurred since you last viewed it, the system displays the existing summary and a banner that prompts you to view what has changed.

The system displays a scrollable summary that describes the task, indicates what happened in the previous step (if applicable), what changed in the current step (if applicable), and what you need to do in the current step.

Using Progress Guide to Get an Overview of All Steps and Their Status (Cloud Only)

While a workflow BP is in progress, you can use Progress Guide to track dependencies, anticipate follow-up actions, and manage related BPs. After a workflow BP reaches completion, you can use Progress Guide to understand what decisions were made, what actions were taken, and ensure that everything was resolved.

To use Progress Guide:

1. Go to the **Company Workspace** or project/shell tab, and switch to **User** mode.
2. From the left Navigator, select **Company Logs** (for the **Company Workspace** tab) or **Logs** (for a project/shell tab).
3. Open the applicable BP record.
4. On the right pane, select the **Progress Guide** tab.
5. To trigger generation of the summary, select the **caret** for a step.
The system automatically generates a summary of the record's progress. If the workflow is finished, the first line of the guide displays the number of steps involved, the status, and the duration. If the workflow is in progress, the first line indicates how many steps have been completed, and the **location pin**  indicates the current step.

You can use the **caret** to show ▼ or hide ▲ detailed information for each completed step. The system retains the cached version of the summary for 30 days. To prompt the system to check for changes, select a **caret** again.

Creating AI-Assisted Classic Payment Application Business Process Records (Cloud Only)

Using AI, you can upload an invoice in PDF format to auto-populate the Upper Form and line items in a classic Payment Application BP record.

Benefits

- Reduces repetitive human error.
- Accelerates invoice processing and payment application cycle times.
- Enables you to focus on higher-value activities.

Limitations

The following limitations apply:

- General Spends and Summary Payment Applications are not supported.
- Only fields that are supported and mapped will be filled automatically.

- Poorly formatted or incomplete invoices may populate partially or fail.
- Out-of-scope field types will not be populated by the AI.

Prerequisites

Invoice data can be extracted only if:

- Your administrator has enabled AI extraction for the Payment Application business process (BP) in the project or shell.
- You have Create permission in the BP workflow setup.
- Invoices with a standard industry payment application format are supported.
- Only invoices of maximum two pages in length can be uploaded which includes:
 - A one-page summary and a continuation sheet containing a schedule of values with line items and description columns.
 - The invoice date, and a vendor number.
 - The invoice is less than 25 MB, not password-protected, and must be uploaded as a PDF.

Procedure

To upload an Invoice PDF and auto-populate a classic Payment Application BP record using AI extraction:

1. Go to the relevant project or shell, and switch to **User** mode.
2. In the left Navigator, select **Logs**, and then select the **Payment Applications**.
3. From the **Payment Application BP** log (right pane) toolbar, select **Create from PDF**, and then select the relevant workflow.
4. In the **Create New Payment Application** page:
 - a. In the **Reference Commit** field, select the applicable contract using type-ahead or the picker.
 - b. To upload the invoice, drag-and-drop the invoice PDF.
5. To initiate data extraction from the invoice PDF, select **Continue**.
6. View the progress modal while the AI processes the document (about 15 seconds).
7. After processing is complete, review the populated Upper Form and line items in the Detail Form.
 - Ensure the populated fields match the actual invoice.

Note

During invoice processing, Large Language Models (LLMs) extract data using a semantic match to populate matched editable fields in the Upper Form and Detail Form of the Payment Application BP record. Therefore, it is recommended that you review and update the BP record (as necessary), to ensure data element label consistency and editability is aligned with the invoice format.

- Check the **Invoice Date**, **Vendor Number**, **Scheduled Value**, **Descriptions**, and so on.
- Check whether the correct Effective date is applied from the scanned invoice.

In a default configuration, the Effective Date data element (uuu_effective_date) on the line items determines the month in which the Payment Application is plotted into Actuals in the Cash Flow module. In the Payment Application design, the Effective Date on the line items is auto-populated from the same data element on the Upper Form. During invoice processing, the header page is scanned, and dates identified on the scanned invoice are used to populate dates on the Upper Form, prior to the line items being added. To ensure that the correct date is applied, ensure that the desired date from the scanned invoices is accounted for in the Upper Form Effective Date calculation or formula.

For example, consider a scanned invoice containing fields for To Date as well as an Invoice Date. If the To Date field represents the month of the incurred cost, it is recommended that a corresponding To Date data element is added to the Payment Application Create Step Form, and that Effective Date contains a formula referencing the To Date data element.

8. Make any manual corrections as needed.
9. Submit or save the Payment Application record in the usual workflow.

The scanned invoice PDF will be attached to the record for audit and reference.

Business Process Forms, Managers Attributes, and Shell Dashboards - User Interface

Unifier has undergone significant changes in the overall user interaction in the Business Process forms, various Logs, Cost Sheet, and so on. These changes were focused on the user interface (UI) and a few structural changes related to the user interaction. Many changes were rolled out in phase throughout 2018. In November of 2019, the Classic View of the business process forms, managers attributes, and shell dashboards was replaced with the Standard View. There were other functional improvements made as a result of the UI improvements, such as type-ahead, auto-fill in pickers, tooltips, and so on. Those improvements have been covered in pertinent user documents.

Note

The images marked "New View" do not necessarily show the latest UI.

The redesigned business process user interface allows you to:

View, edit, and manage all relevant details within a single form.

- Access record details with limited pop-ups and clicks.
- See only relevant, context-sensitive menu, and toolbar functions.
- Use the enhanced form layout to navigate, expand, and collapse field blocks.
- Create, enter, and update record data and line items in one place.
- Navigate easily between tabs to complete the main and line item forms.
- Add and view attachments in one place.
- Route workflows with minimized alerts and errors.
- Use enhanced field interaction in text boxes, pickers, and data pickers.

Note

This updated version does not impact the fundamental ways in which a business process, manager attributes, or shell dashboards are created in the newer User Interface.

The following describes the business process types that are not supported in the UI and will continue to be shown in Classic View:

- Resource, which includes Resource Booking
- Resource, which includes Timesheet
- Schedule Manager, which includes Custom Calendars
- Schedule Manager, which includes Schedule Sheets

The following describes the business process types and sub-types that support the newer UI:

- Cost
 - Line Items with CBS codes
 - Line Items with Fund codes
 - Line Items with CBS and Fund codes
 - Commit at Company Level
 - Line Items with Company Accounts Code
 - Line Items with Multiple Codes
- Document
 - With Folder Structure
 - Without Folder Structure
- Line Item
 - Line Item (Generic)
 - Line item to filter Company Business Process Records
 - Preventive Maintenance
- Simple
- RFB
 - Generic
 - Line Items with CBS Codes
 - Line Items with Generic Cost manager
- Project/Shell Creation
 - Project/Shell Creation - Simple
 - Project/Shell Creation - Line Item
- Text

Classic View User Interface Features Not Supported in Standard View

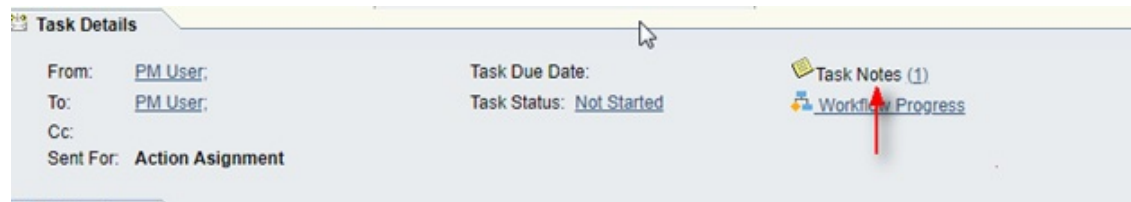
The following features will not be supported in the Standard View of the business processes forms:

- Adding or Viewing of Task Notes
- View Received Task option
- Uploading images from the toolbar
- Summary Items in business processes that support Summary line items
- Spell-check feature in business process

The following explains each feature in detail:

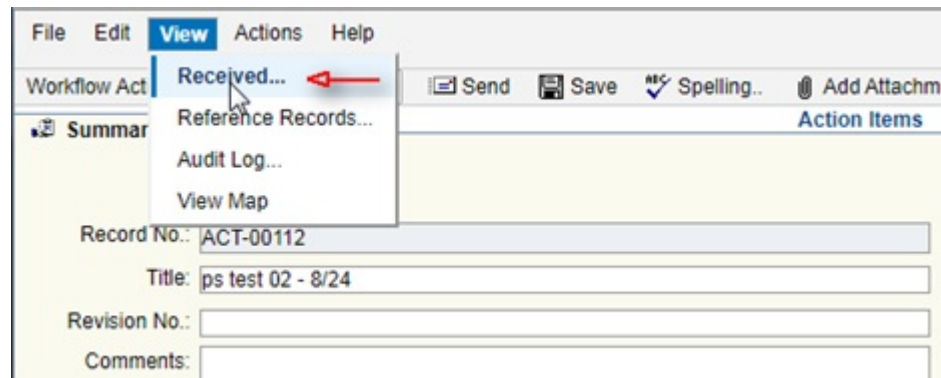
Adding or Viewing of Task Notes

In the Classic View, notes that are specific to a task can be added to a BP form. They are temporary notes that can be used as comments for, or specific instructions to, the next user in the workflow. Task notes are not forwarded throughout the workflow and are not archived. You can think of them as sticky notes that stay with the form for one step in the workflow only. A task note only applies to the current task.



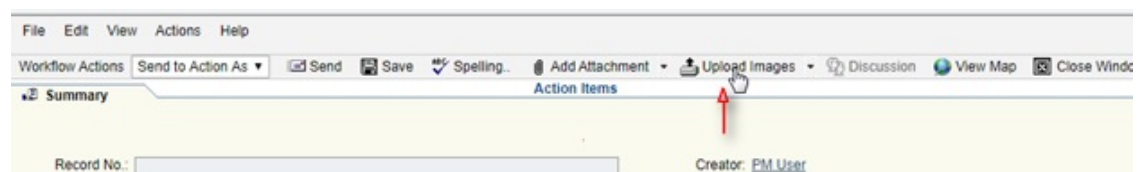
View Received Task option

In the Classic View, after a Task assignee accepts a Task, the form seen is based on the Action Form associated with the current step of the workflow. In the event that an assignee wants to see the received task, the assignee can select **View**, and select **Received**.



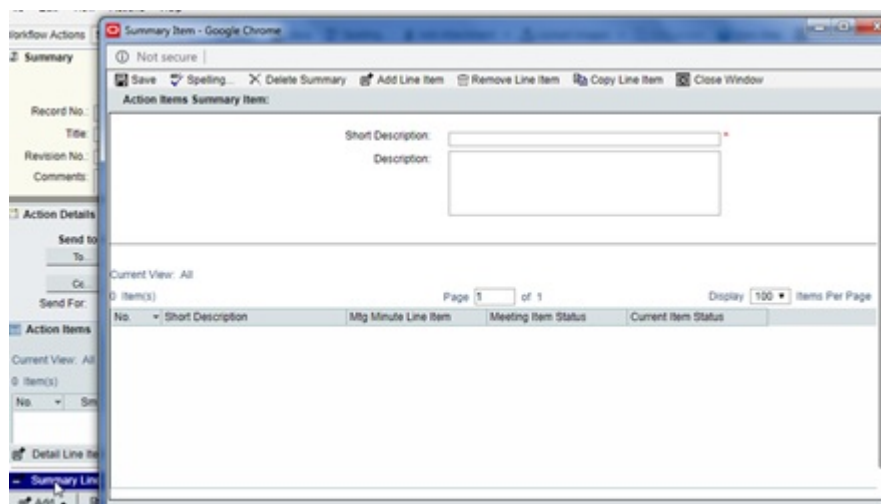
Uploading images from the toolbar

In the Classic View, if there are multiple image-picker fields in the form, the Upload Images option in the toolbar can be used to upload images in bulk.



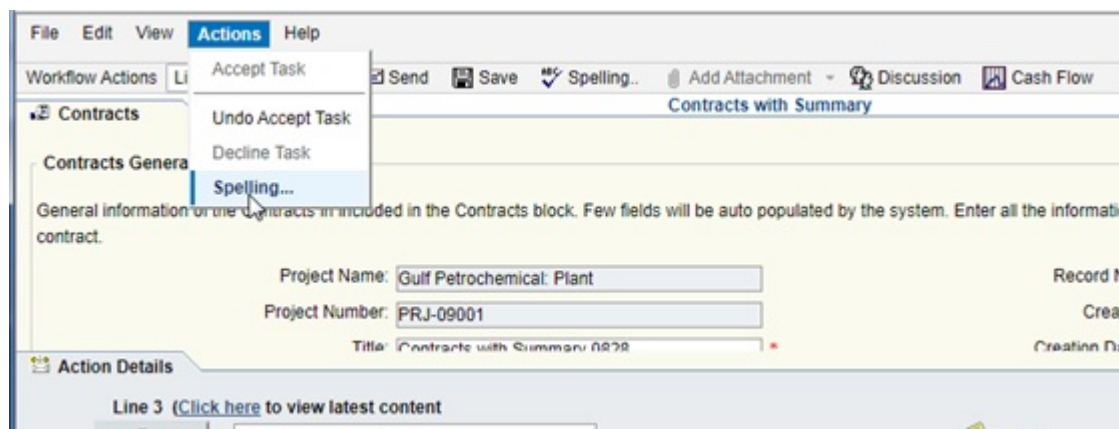
Summary Items in business processes that support Summary line items

In the Classic View, the Summary Items window enables you to group regular line items together, with the summary only appearing on the BP. The sub-line items are rolled up to other areas, such as the Cost Manager.



Spell-check feature in business process

In the Classic View, the spell-check feature is available for all BP forms, including the Cost, Document, Text, Simple, and Line Item BPs. You can spell-check information that you have entered in the text fields and any other text areas.

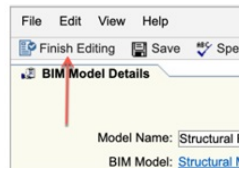


Classic View and Standard View Labels

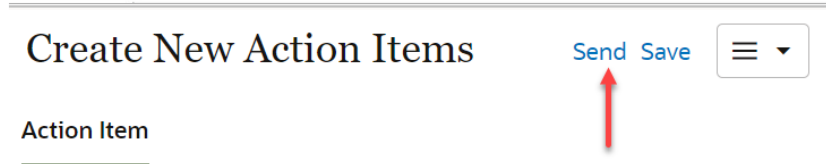
The following provides a comparison between the labels of the Classic and Standard View. The left picture shows the label in the Classic View, and the right picture shows the label in the Standard View.

In a non-workflow business process, the **Finish Editing** label has changed to **Submit** label, as shown below. When you select **Submit**, you submit the form changes.

Classic View

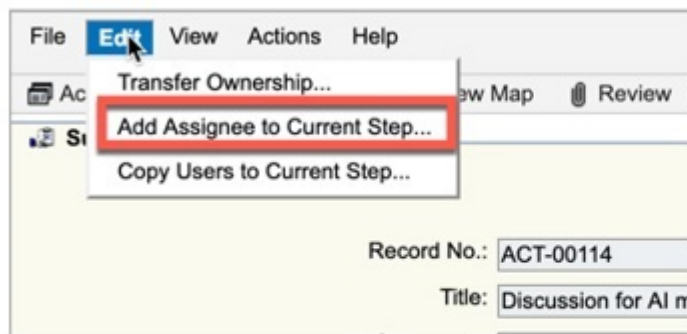


New View

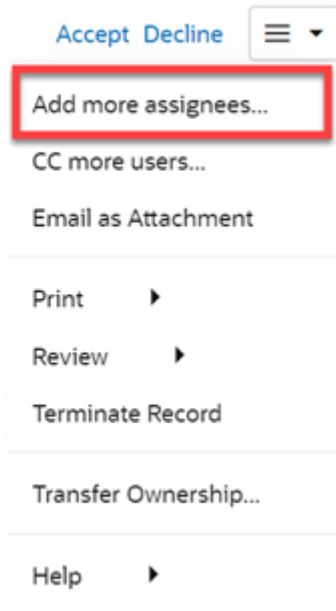


In a workflow business process view form, The **Add Assignee to Current Step...** label has changed to **Add more assignees...**, as shown below:

Classic View

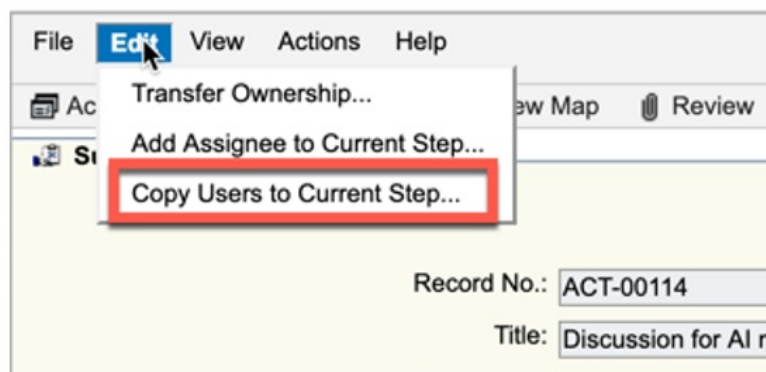


New View

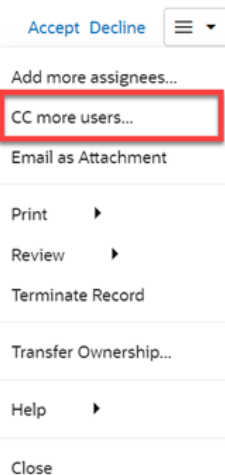


In a workflow business process view form, the **Copy Users to Current Step...** label has changed to **CC more users...**, as shown below:

Classic View

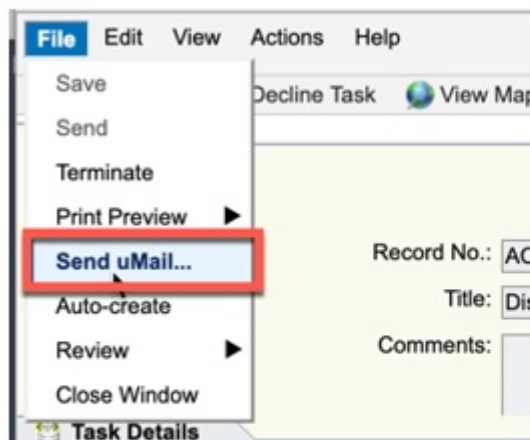


New View

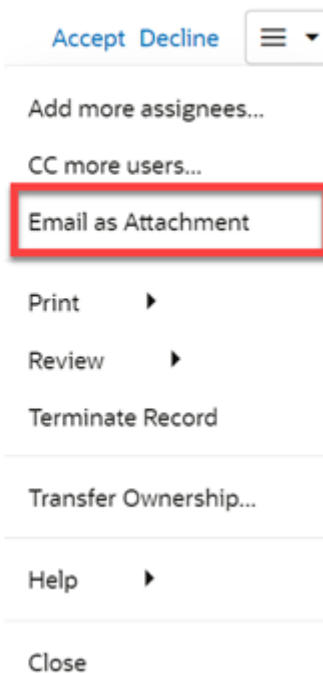


In a workflow business process view form, the **Send uMail** label has changed to **Email as Attachment**, as shown below:

Classic View

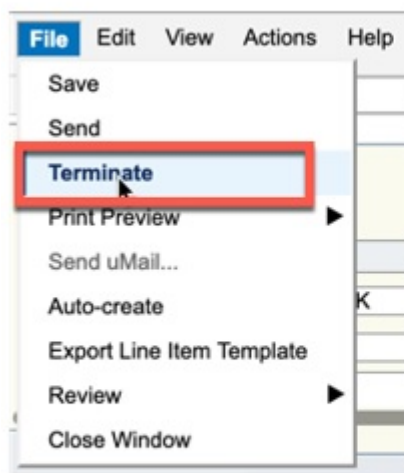


New View

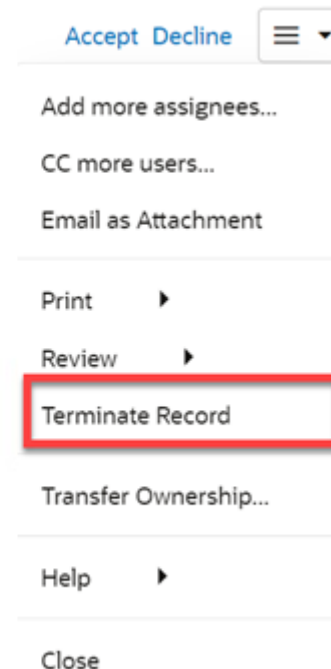


In a workflow business process view form, the **Terminate** label has changed to **Terminate Record**, as shown below:

Classic View

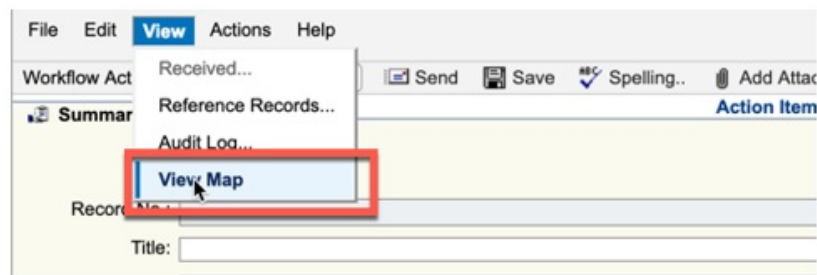


New View

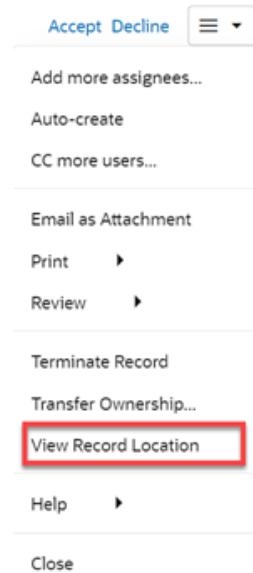


In both the workflow and non-workflow business process forms, where the business process is enabled for **Geo-Coding**, the **View Map** label has changed to **View Record Location**, as shown below:

Classic View

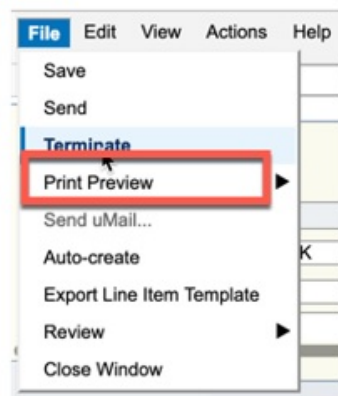


New View

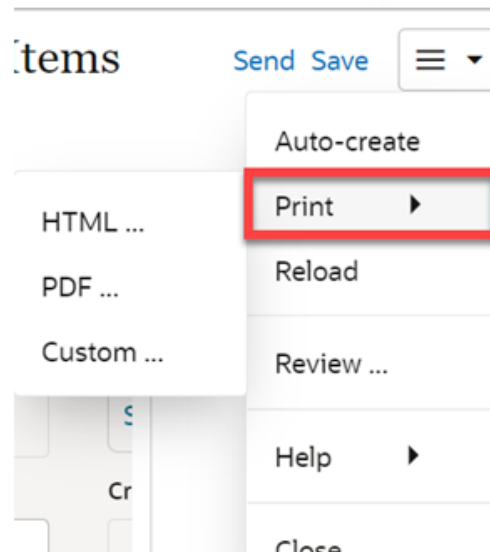


In both the workflow and non-workflow business process forms, the **Print Preview** label has changed to **Print**, as shown below:

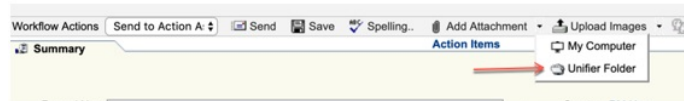
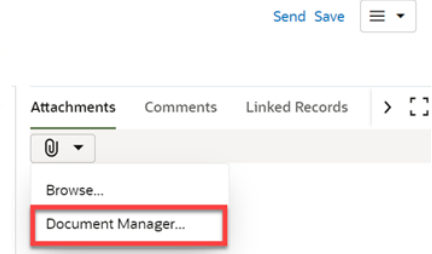
Classic View



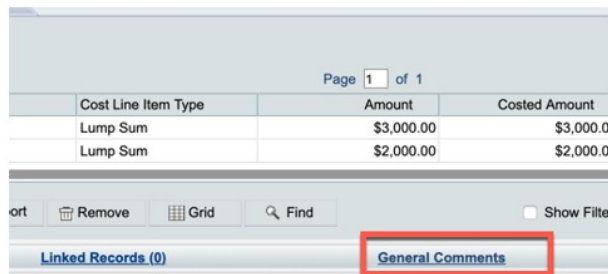
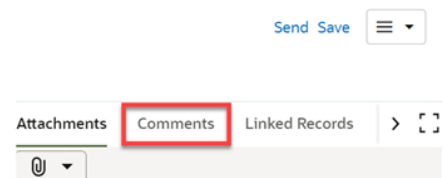
New View



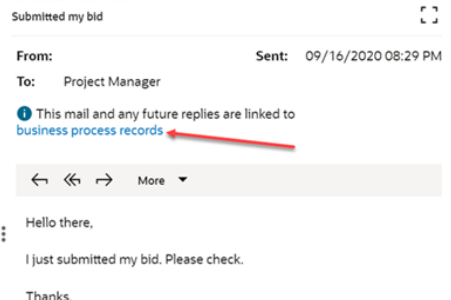
In both the workflow and non-workflow business process forms, the Attachment source **Unifier Folder** label has changed to **Document Manager**, as shown below:

Classic View**New View**

In both the workflow and non-workflow business process forms, the **General Comments** label has changed to **Comments**, as shown below:

Classic View**New View**

In the **Mailbox**, when mails are linked to business process records, the **Show List** label has changed to **business process records**, as shown below:

Classic View**New View**

Classic View and Standard View Tabs, Menus, and Actions

In the Standard View of both workflow and non-workflow business processes, the right pane displays tabs that contain additional attributes of the business process record such as **Attachments**, **Comments**, **Lined Records**, **Linked Mail**, **Reference Records**, **Workflow Progress**, and **Audit Log**, in the Standard View, as shown below:

Classic View

New View

All non-primary actions such as printing record content, reviewing upper form and line item attachments at the record level, and setting up schedule for auto-creation are part of the Menu option , in the Standard View, as shown below:

Classic View

New View

In the Standard View, if the signed-in user does not have permission to view certain content of the record, the right pane does not display the corresponding tab. As an example, the following shows the Standard View when the signed-in user does not have View permission for **Audit Log**:

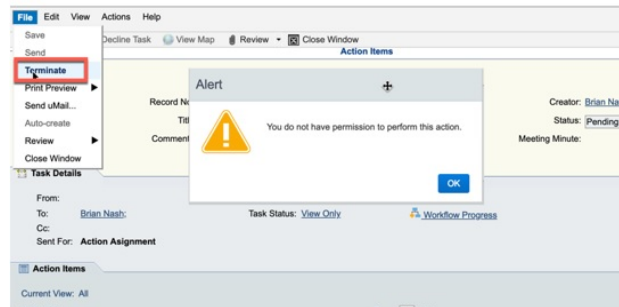
Classic View

New View

Audit log tab will be hidden

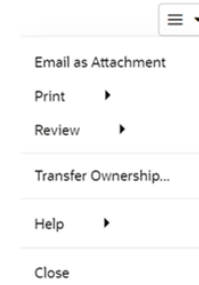
In the Standard View, if the signed-in user does not have permission to perform certain actions such as **Terminate Record**, the user would not see that action option under the Menu option , in the Standard View, as shown below:

Classic View



New View

Terminate Record option will be hidden



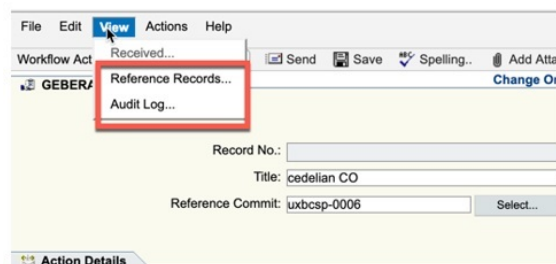
Classic View and Standard View Functions

Note

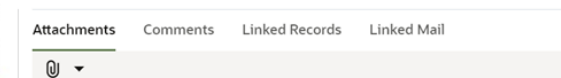
If a Workflow Business Process was created in the Classic View and remained as draft, when you open the draft from Standard View, the draft will open in the Classic View. After you submit the draft, the submitted record opens in Standard View.

In a workflow business process, at any given step of a business process record, only those options (both tabs and menu) that are applicable to the given step will be displayed. For example, in the Classic View the **Reference Records** and **Audit Log** options were seen in the creation stage (although not applicable to the creation step). In the Standard View, these options are not displayed, as shown below:

Classic View



New View

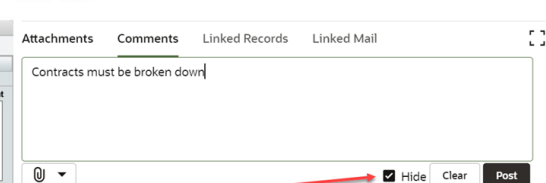


In the Standard View of both the workflow and non-workflow business processes, when you add a comment, the **Hide** checkbox is selected by default, as shown below. This means that a comment is hidden by default and if you want your comment to be viewed by everyone, you must deselect this option.

Classic View



New View



In the Standard View, when you add Linked Records to a workflow or non-workflow business process record, the list of the business processes displayed will be based on your (the user's) node access (items on left Navigation screen). For example, if you do not have access (for example, view permission) to a certain node (sub-node) under the **Logs**, that node (in this case a BP record) will not appear under the **Logs**. As a result, you cannot add the BP record as a linked record because you do not have permission.

In the Standard View, the workflow details are displayed after you select **Send**. When the workflow details are displayed, the data validations, filtering of assignees (if applicable), and so forth, have already been completed.

Classic View

New View

In the Standard View, the line item forms are no longer displayed as pop-ups. Instead, the line item detail form (**Line Items Details**) opens on the right-side of the line item list, as shown below:

Classic View

New View

In the Standard View, for auto-created records (**Auto Create BP**) that are in Initiation Step, but the job is not yet complete, the accept and decline actions will not be displayed.

In the Standard View, you cannot transfer ownership if the selected user is the record owner.

In the Standard View, the form design is retained without any exceptions.

In the Classic View of Change Commit BP, if the **Reference Commit** field is marked as read-only, in the design (uDesigner), in the Standard View the **Reference Commit** field will be rendered as a read-only data element.

Note

Prior to this improvement, in the Classic View, this data element had an exception, wherein even if the field was marked as read-only, at runtime, the field would have been enabled.

In the Standard View, if a **Date Picker** field has been added to the Line Item List, the value displayed will include both the **Date** and the **Time**.

Note

In the Classic View, the value displayed only included the **Date** and not the **Time**.

In the Standard View, you can change the BP picker field value (referenced by a **Line Item Picker** field) in a line item. The BP picker field value cannot be changed if the **Line Item Picker** field has a line item reference in the field.

Note

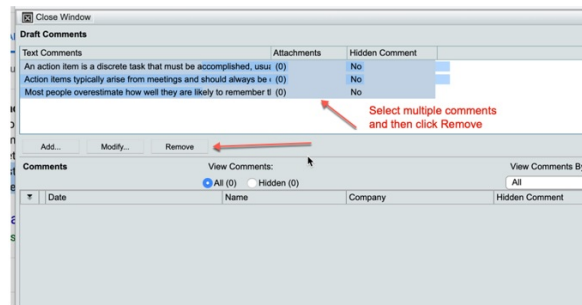
In the Classic View, you could not change the BP picker field value even if the **Line Item Picker** field in the line item did not have a value.

In the Standard View, the **Date Picker** controls will not have the **Time Zone** information, as shown below:

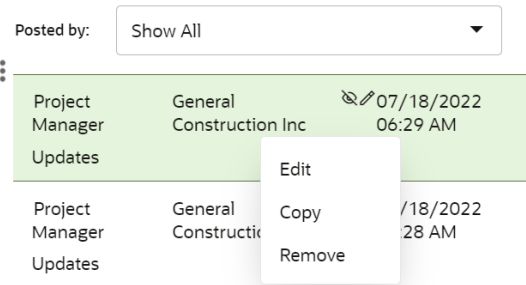
Classic View
New View

In the Standard View, you cannot delete multiple draft comments (from the **Comments** tab), as shown below:

Classic View



New View



In the Standard View, the **Document Review** option is present at the time of creating the record, unlike Classic View where the option is seen only after creating the record, as shown below:

Classic View

New View

Create New Action Items

Action Item

The General block contains field related to record. There are 10 fields. Not all the fields are populated, some are left empty for testing purpose. User can edit some of the fields.

Record No.

Creator

Project Manager

Creation Date

Attachments Comments Linked Re



Send Save

Auto-create

Print

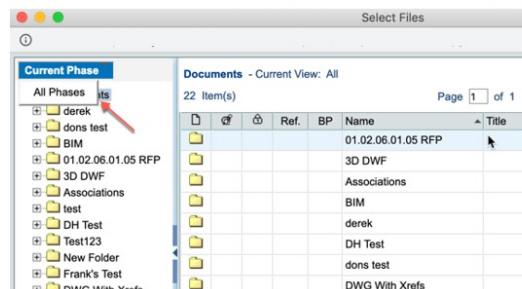
Reload

Review ...

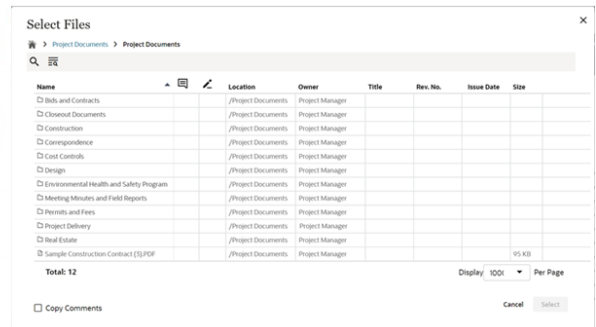
Help

In the Standard View, the document management picker (displayed when adding attachments from Unifier **Document Manager**) does not show phase selection, as shown below:

Classic View



New View



In the Standard View, for the Text-type business process, the way the comments are added and displayed has changed, as shown below:

Classic View

Clash Detections - Clash detection as of 08/08 - Project No. PJU-09001

File Edit View Actions Help

Workflow Actions Respond Send Save Spelling Undo Accept Task Add Attachment Review Close Window

General

Title: Clash detection as of 08/08

Record No.: CLS-00008

Due Date:

Creator: PM User

Creator Company: pmc

Status: Pending

Discipline: Civil

Action Details

Respond [Click here to view latest content](#)

To: PM User

CC:

Send For: Review

Collaboration

Attachments (0)

Linked Records (0)

Linked Mail (0)

New View

Create New Clash Detections

Send Save

General Collaboration Response

Task Notes

Workflow Progress

Attachments (0)

Linked Records (0)

Linked Mail (0)

Standard View, for the Text-type business process, you can view previous comments in the **Response** tab, as shown below:

Classic View

Clash Detections - Clash detection as of 08/08 - Project No. PJU-09001

File Edit View Actions Help

Workflow Actions Respond Send Save Spelling Undo Accept Task Add Attachment Review Close Window

General

Title: Clash detection as of 08/08

Record No.: CLS-00008

Due Date:

Creator: PM User

Creator Company: pmc

Status: Pending

Discipline: Civil

Action Details

Respond [Click here to view latest content](#)

To: PM User

CC:

Send For: Review

Collaboration

Attachments (0)

Linked Records (0)

Linked Mail (0)

New View

Clash Detections

Send Save

General Collaboration Response

Posted by: Show All

SJ Project Manager General Construction Inc

02/02/2021 11:28 AM

Check out the attached drawing files

Industrial_Park... 973 KB

Lincoln_Landin... 6 MB

500Folsom_Mu... 3 MB

In the Standard View, for the Document-type business process, the steps to create folders and line items have changed, as shown below:

Classic View

General Transmittals

Title:

Record No.:

Due Date:

Creator: PM User

Creator Company: pmc

Status: Pending

Discipline: Civil

Action Details

Create New Transmittals

To:

CC:

Send For:

Standard

Attachment Index: (0)

New Rename Move Delete

Attachments

Current View: All

0 Item(s)

Add Copy Import Remove

Linked Records (0)

General Comments

New View

Create New Transmittals

Transmittal Line Items

Add Actions View Comments by: All

Name Document Type Short Description

Attachments

Add Sub Folder

File Index Report

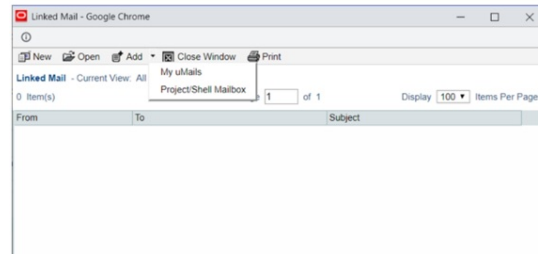
In the Standard View, for the Document-type business process, the steps to add an attachment to a line item has changed. In the Line Item tab, there will be an Attachments tab, similar to the attachments tab on the main business process form.

In the Standard View, in the **Linked Mail** tab, the **Add** drop-down list includes the options:

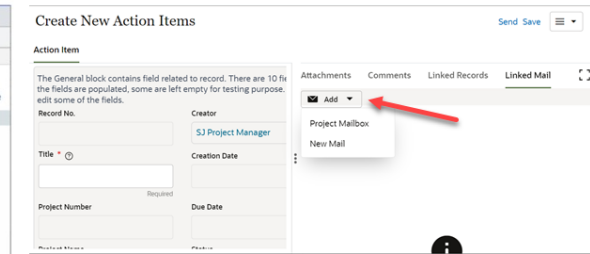
- **Mailbox:** To attach existing Mailbox mails as well as Project Mailbox inbound emails
- **New Mail:** To compose a new email

See below for details:

Classic View



New View

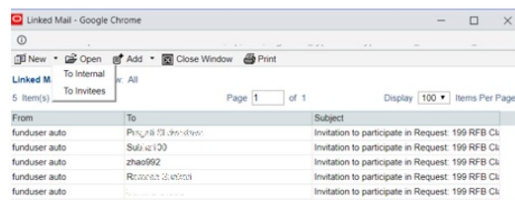


In the Standard View, in the **Linked Mail** tab of the RFB-type (Request for Bid) business process, you can send emails to Unifier users and bid invitees in the **Proposal Management** tab. The right pane has the Mail tab, which is used to send mail to users. The option to send mail to bid invitees is located in the *gear menu* (⚙️).

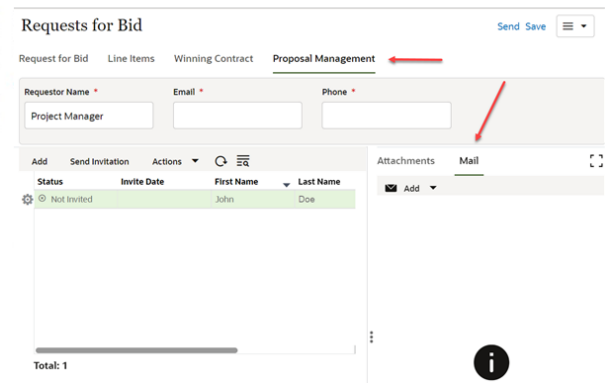
Note

In the Classic view, you used the New menu option to send emails to users and bid invitees.

Classic View



New View



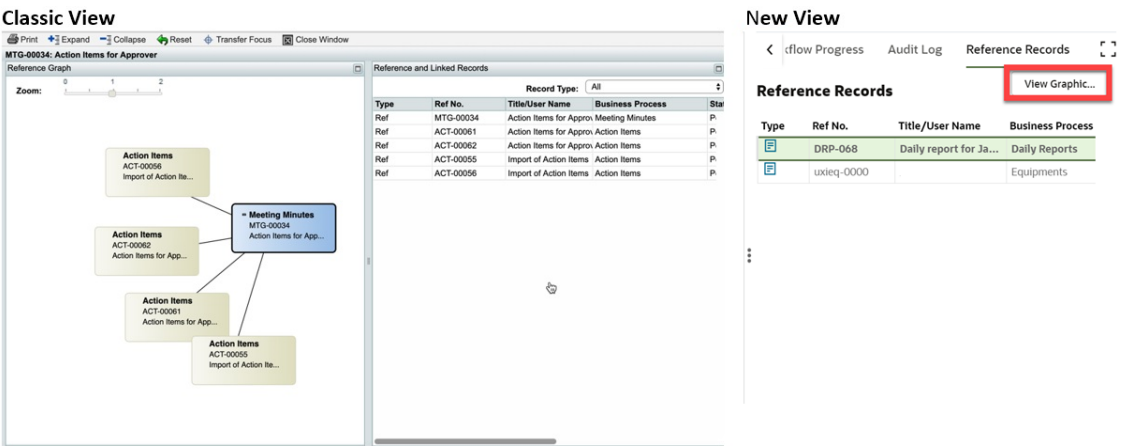
In the Standard View, for the RFB-type business process, when sending email to invitees, you can select the **To** *hyperlink* to access the list of all available invitees.

Note

In the Classic View, you selected the **To** *option* to access the list of all available invitees.

In the Standard View, for the RFB-type business process, after a bid is closed, the show bid screen (**Preview**) has been enhanced.

In the Standard View of both the workflow and non-workflow business processes, the graphical diagram and the list view (while viewing of reference records in the **Reference Records** tab) have been enhanced, as shown:



In the Standard View, the **Line Item Consolidation** window has been enhanced.

5

Working with Earned Value Analysis

If you have access to the Earned Value Manager (EVM) feature, the following explains how to work with it.

Within the documentation, some content might be specific for cloud deployments while other content is relevant for on-premises deployments. Any content that applies to only one of these deployments is labeled accordingly.

Note

The instructions and information presented in the documentation are based on an out-of-the-box (OOTB) setup and before being customized by the user.

The Earned Value Analysis (EV Analysis) is an industry standard for analyzing project performance, and it can be used to track:

- Progress to date
- Forecast completion date
- Forecast completion cost
- Schedule variances
- Budget variances
- Performance

As a feedback tool, the EV Analysis helps you:

- Identify where the problems may occur and whether the problems are critical or not.
- Determine what needs to be done to put the project back on track.

The **Earned Value Analysis** node (in the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis**) is based on the project schedule data (activities and assignments) and company rates (resources and roles) imported from P6 or Oracle Primavera Cloud through integration. The **Earned Value Analysis** node:

- Optimizes the use of cost control features.
- Calculates earned value and other related measures for a project, such as planned value, actual cost, variances, performances indexes, and at completion values using rates defined in the system.

Note

EVM requires database partition tables in Oracle Database. The database partition feature is only available in Oracle Database Enterprise Edition.

Use the **Earned Value Analysis Report** node ((in the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis Report**) to generate American National Standards Institute (ANSI) Reports.

Prerequisites

To use the Earned Value Management (EVM) module with Primavera P6 or Oracle Primavera Cloud:

- You must have access to the EVM feature, which is enabled through the User Mode Access settings in Access Control.
- The Oracle database (DB) used for Unifier must have the DB Partition feature enabled.

To use the EVM module with P6:

- The following Oracle third-party applications must be available:
 - P6
 - Gateway
- Unifier and P6 Integration through Gateway must be established. Ensure that P6, Gateway, and Unifier integration are configured properly. P6 must have at least one project (if baseline is available in P6 you are set; otherwise, you must use the P6 Current Schedule as baseline).

The option to enable multiple projects mapping between P6 and Unifier is included in the Shell Attributes form. In the Shell Attributes form, use the Integration tab to map multiple P6 projects with the respective shell in Unifier using P6 Project ID.

To use the EVM module with Oracle Primavera Cloud and Oracle Integration, make sure that you have an account for, and access to, an instance of Oracle Primavera Cloud and Oracle Integration. For more information, see the *Unifier General Administration Guide*.

Summary of Steps for Earned Value (EV) Analysis in P6

The following is a summary of steps that you must perform for EV Analysis:

1. Begin by setting up integration parameters in Gateway, P6, and Unifier. For example, to ensure that spread data displays correctly in the Activity Sheet and EV analysis sheet, make sure that P6 is configured to use the **Planned values with Current Dates** option under **Earned Value Calculation**.
2. In Company Workspace (Admin mode), use the two new synchronizations in the Gateway node to import P6 activities, assignments, and rates for EV analysis.
3. In Company Workspace (User mode), initiate the synchronizations from the company-level Master Rate Sheet node to fetch the global roles and resources data from P6.
4. In Shell Details, Gateway Integration tab, select the **Link Multiple P6 Projects** checkbox and add P6 projects.

Note

- The same P6 project cannot be mapped to other shells. The one-to-many relationship is unique for EVM functionality.
- The Unifier company Base Currency and P6 base currency must be the same.

5. In the Shell (User mode), the **Activity Manager** module is available to store an activity sheet and shell-level rate, WBS, and OBS sheets.
 - a. Initiate synchronizations in the **Activity Sheets** log to get the *activities and assignments data* from the linked P6 projects.
 - b. In the **Rate Sheet** node, create rate sheets, if shell-specific rates are required. This creates a shell-level Rate Sheet with roles and resources that will be used in the shell.
6. In the Shell (User mode):
In the **Earned Value Analysis** node (in the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis**), perform earned value analysis corresponding to an activity sheet.
 - Activity sheet data (WBS, CBS, and all projects) is consolidated, rolled up, and displayed in summary tables in an EV scenario.
 - Earned value analysis can be generated directly for cost loaded projects, with Unifier Rate Sheet.
 - For resource loaded projects, resource and role rates must be present before analyzing earned value and other matrices.
 - Duration-based projects are ignored because they do not have cost data.
7. In the Company Workspace and Shell, the related areas in Unifier include all permissions, reporting, and Configuration Package Management modules.

Note

Only the Cost-loaded and Resource-loaded projects are used for EV analysis. Although it can be included in an Activity Sheet, a duration-based project cannot be used for Earned Value Analysis.

Configuring the Gateway Integration for P6

After integration parameters are set up in P6 and Gateway, configure the Gateway integration options.

Note

- The Summary Sheet Integration does not work if you link to multiple projects in the **Gateway Integration** tab of a shell.
- All existing Activities data and corresponding Audit Log data is deleted when you link to multiple projects in the **Gateway Integration** tab of a shell.
- When the P6 project ID is added in **General** tab of the shell **Details** window (which is already added in another shell Integration tab), priority is given to the shell in which the P6 project ID added in **Gateway Integration** tab on running **Get Data** from any of the shells.

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Integrations**, and then select **Gateway**.
3. From the toolbar, select **Open** to open the **Integration Settings** dialog box.
4. Complete the two synchronizations that are available to import P6 activities and rates for Earned Value analysis:

a. Select Synchronization to import Activity & Assignment data.

b. Select Synchronization to import Role & Rate rates.

The solution uses existing Unifier and P6 projects only. The existing export synchronization will be used to export data from Unifier to P6 for activity sheet with multiple projects.

For a successful integration, the Schedule type must be selected in P6. This is a mandatory condition.

c. P6 Base Currency

By default, the P6 currency is populated with Company Currency [Base Currency in Unifier].

If the P6 base currency is different from the Company Currency [Base Currency in Unifier], the admin can change it to the relevant P6 base currency.

Begin initiating the Gateway synchronizations to import and store P6 data:

- Role and Resource Rates
- Activity and Assignment Data

Role and Resource Rates

In the **Company Workspace** (**User** mode), initiate the synchronization from the **Master Rate Sheet** node to fetch the global roles and resources data from P6.

Select **Get Data**  to run the synchronization and create the **Master Rate Sheet**. The **Master Rate Sheet** fetches and stores global roles and resource data from P6. Effective dates and standard price/unit imported from P6 on first import can be modified in Unifier. Rates from the **Master Rate Sheet** are used in the Activity Sheet in a Unifier project for P6 resource loaded projects. See [Master Rate Sheet](#) for more information.

Note

Rates are not imported on subsequent synchronizations. Only resource and role lists are updated.

Activity and Assignment Data

In the shell Details, use the **Integration** tab to map P6 projects.

1. Select to expand the **Activity Manager** module.
2. Select the **Activity Sheet** sub-node to open the log.
3. Select **Get Data** to run the synchronization and create the Activity Sheet.

The Activity Sheet fetches and stores the activity and assignment data from P6, and the role and resource rates data from the company-level Master Rate Sheet. Subsequent synchronizations will update the data. For more information, see the following:

- [Mapping P6 Projects in Shell Details](#)
- [Earned Value Management Attributes](#)

Prerequisites for Configuring the Gateway Integration

- Integration Parameters in Gateway and P6
- Permissions

Integration Parameters in Gateway and P6

Complete configuration of the integration parameters in Gateway and P6. The Schedule type must be selected for projects in P6 for successful integration.

Permissions

Grant the required **Administration (Admin)** and **User** mode permissions for the relevant modules in Unifier by using the following modules:

- Permission templates
- Access Control
- User Administration

For **Admin** mode access (Company) use:

- Gateway

For **User** mode access (Company) use:

- Master Rate Sheet

For **User** mode access (Project/Shell)

- Activity Manager
 - Activity Sheet
 - Rate Sheet
 - WBS Sheet

- OBS Sheet
- Earned Value Manager
 - Earned Value Analysis
 - Earned Value Analysis Report

See Setting Up the Earned Value Management Permissions for details.

Mapping P6 Projects in Shell Details

When Unifier is integrated with P6 via Gateway, an additional **Gateway Integration** tab is displayed in shell details.

1. Navigate to the shell in which you want to map multiple P6 projects to perform Earned Value analysis.
2. In the upper-right corner, select **My Dashboard** () , and then select **Details**.
3. In the **Gateway Integration** tab, select the **Link Multiple P6 Projects** checkbox. This drives the synchronizations in the Gateway node.
4. Select **Add**.
5. In the **Add P6 Project** dialog box, enter the project ID, and select **OK**.

The project name and schedule type are auto-populated after running the sync.

Only Cost Loaded and Resource Loaded projects are used in Earned Value Analysis. The Duration Based projects are ignored because they do not have cost data.

P6 includes a "Cost Spread" option that enables the user to spread cost based on "Linear" or "Units" spreads. Unifier only supports the "Linear" spread; it does not support the "Units" spread.

After the P6 project and its activities are synced to the Activity Sheet, you cannot modify or delete respective Project IDs. Clearing the **Link Multiple P6 Projects** checkbox also cannot be done if any P6 project IDs are added.

Note

The same P6 shells cannot be mapped to other shells in Unifier. The one-to-many relationship is only unique for Earned Value Management functionality.

Integrating Activity Sheet for Multiple Shells

Note

- Permission for "Get / Set Activity Sheet Data" from Shell log are configured in Admin mode while permissions to take these action from within a Shell (User mode) are given at User mode level.
- The options listed here are not available from User mode of the Shell log (CBS type Shell) window menu toolbar.

To integrate multiple Shell instances with P6, switch to Admin mode, go to a CBS type Shell and from the Shell log perform any of the following operations.

To get an activity sheet data:

1. Select **File** from the menu.
2. Select **Get Activity Sheet Data**.
3. Select one of the following choices:
 - All Shells
 - Selected Shells
 - Filtered Shells
 - History

To send an activity sheet data:

1. Select **File** from the menu.
2. Select **Send Activity Sheet Data**.
3. Select one of the following choices:
 - All Shells
 - Selected Shells
 - Filtered Shells
 - History

When in Admin mode, the following options are available in the CBS type Shell (in the Shell log) toolbar:

- Get Activity Sheet Data
- Send Activity Sheet Data

The following explains the options above in detail:

- **Get Activity Sheet Data, All Shells**
You can select this option without having to select a Shell from the log.
- **Get Activity Sheet Data, Selected Shells**
You can select this option only when you select at least one Shell instance from the log.
- **Get Activity Sheet Data, Filtered Shells**
You can select this option after filtering Shells by using the Find option in the Shell log.
- **Get Activity Sheet Data, History**
Similar to the History option in other modules, you can select this option to view the history of a "Pull" action to see whether a request has been submitted successfully.

- **Send Activity Sheet Data, All Shells**
You can select this option without having to select a Shell from the log.
- **Send Activity Sheet Data, Selected Shells**
You can select this option only when you select at least one Shell instance from the log.
- **Send Activity Sheet Data, Filtered Shells**
You can select this option after filtering Shells by using the Find option in the Shell log.
- **Send Activity Sheet Data, History**
Similar to the History option in other modules, you can select this option to view the history of a "Pull" action to see whether a request has been submitted successfully.

Note

Each time you initiate a "Get" data or a "Send" data action, the systems displays a confirmation message. Select OK on the message window to exit.

Master Rate Sheet

A company will only have one Rate Sheet called the "Master Rate Sheet." So, users are not allowed to create a copy sheet of the Master Rate Sheet under Company Workspace. This sheet will contain rates for both roles and resources, users will be able to toggle between resource and role rates from the display. By default, the rates present in Master Rate Sheet will be used across all the resources and roles present in all activity sheets across all shells unless the user has assigned another rate sheet present at the shell level to the activity sheet/project.

Master Rate Sheet and P6

Unifier enables you to set a series of rate rules that should be applied when certain conditions are met in a project by way of the **Master Rate Sheet**.

In P6, users can assign a role, or resource, to an activity under the assignments tab of an activity for any project. The rates (Price/Unit) for assigned roles and resources are managed at global level in P6, which can then be used in a project while doing the costing (calculating Present Value, Earned Value, and so on) of the project depending on the rate source (resource, role or override) corresponding to that assignment in an activity.

A **Master Rate Sheet** is created after the first P6-Unifier integration via Gateway. It fetches and stores global roles and resource data (and their corresponding rates) from P6.

Subsequent synchronizations will update roles and resources but not the rates. By default, the rates present in the **Master Rate Sheet** are used across all the resources and roles present in the activity sheets across all shells unless you assign a shell-level rate sheet to the **Activity Sheet** in that shell.

There is no support to export data from the **Master Rate Sheet** in Unifier to P6 in the multiple mapping paradigm.

The sheet stores all the changes made across all the resources and roles present in it manually or by way of synchronization.

The P6 synchronization for Resource rates and Role rates can result one of the following scenarios:

Scenario One:

P6 Resource currency = P6 Project currency = Unifier Base Currency

No changes required

Scenario Two:

P6 Resource currency <> P6 Project currency = Unifier Base Currency

The value against any resource rate from P6 comes in P6 company currency, even if the resource currency is different. As a result, while synchronizing with P6, the value coming from P6 as resource rate will be converted to the respective amount in the resource currency.

The exchange rate for doing this will be fetched from the Standards & Libraries with Unifier Base Currency (company currency).

If there is no exchange rate, by default the system uses zero as the exchange rate. The converted resource rate will be stored in the Master Rate Sheet for an effective date.

If there are multiple rates with different effective dates, the system uses the exchange rate applicable to the effective dates, for conversion.

Scenario Three:

P6 Resource currency = P6 Project currency = <> Unifier Base Currency

The currency object between P6 and Unifier will be mapped in Gateway to get the P6 Project currency. After the application receives the P6 project currency, it treats it as explained in *Scenario Two*, by applying the exchange rate to individual resources.

Scenario Four:

P6 Resource currency <> P6 Project currency <> Unifier Base Currency

The application implements the process indicated in *Scenario Three*; thereby converting all the resource rates in Unifier Base Currency.

If the resource rate currency is different from the P6 project currency, Unifier applies the process indicated in *Scenario Two* to handle this scenario (*Scenario Four*).

Note

While creating a shell-level rate sheet, the system keeps the currencies that are being used in the Company Workspace because that is where the currency is going to be used by a resource.

Master Rate Sheet and P6 (Multiple Row Rates)

In P6 both the resource and role rates are maintained globally. You can import P6 resource and role rates into the Master Rate Sheet.

For a *resource loaded schedule*, you need rates corresponding to these roles and resources for doing costing of any project.

There are two types of rate sheets:

- **Master Rate Sheet** (at **Company Workspace**), which you can access by going to the **Company Workspace** tab, switching to **User** mode, and selecting **Master Rate Sheet** in the left Navigator.
- **Rate Sheet** (at Project/Shell), which you can access by going to the project/shell tab, switching to **User** mode, selecting **Activity Manager** in the left Navigator, and then selecting **Rate Sheet**.

For P6 resource loaded schedule, the Master Sheet receives the standard rates which correspond to the roles and resources, and the rates are used in costing of any project in Unifier.

In P6 you can define a role with multiple rates and multiple effective dates and bring the information into the Master Rate Sheet.

 Note

When you select **Get Data**  from the Master Rate Sheet log, the rate sheet displays all the existing role rates with effective date as 01/01/2020.

When you create a project rate sheet that only has the resources and roles that are being used in the resource-loaded project in the system activity sheet of a shell, you can see the assigned roles, with the multiple rates, that have been sent to the Master Rate Sheet.

You can assign the role rate to the activities and resource assignments and any cost calculations will use the assigned rate.

When you refresh data in the Master Rate Sheet, Unifier performs all the existing validations.

For a *cost loaded schedule*, there are no calculations conducted in Unifier, and Unifier uses the data directly from P6.

In P6, rates are assigned to a role or resource at global level. To maintain the consistency, the P6 global data is imported to Unifier Company Workspace. This data is captured under the Master Rate Sheet. That is, the rate sheet is created through P6-Unifier integration and is saved as "Master Rate Sheet" under a new node in company workspace called Master Rate Sheet.

Under Company Workspace, only one rate sheet is called the Master Rate Sheet. You are not permitted to create a copy sheet of the Master Rate Sheet under Company Workspace. The Master Rate Sheet contains rates for both *roles* and *resources*. You will be able to toggle between *role* and *resource* rates within the window.

 Note

By default, the rates present in the Master Rate Sheet are used across all *roles* and *resources* present in all activity sheets across all shells unless the user has assigned another rate sheet (present at the shell level) to the activity sheet/project.

To assign rates at the activity sheet level, you can use a subset of the Master Rate Sheet in a shell with the *roles* and *resources* being used in the resource-loaded projects in the system activity sheet of only that shell. Rate sheets present at any shell are subsets of Master Rate Sheet. This means, when you select refresh data (Refresh) for any rate sheet at shell level, Unifier updates the Master Rate Sheet with:

- The list of *roles* and *resources* based on the latest data available in resource-loaded projects in the activity sheet
- The corresponding rates from Master Rate Sheet

The following rules are in place when refreshing data:

- If a *role* or *resource* rate has been removed from the system activity sheet, for that shell, the system deletes the *role* or *resource* rate along with the rates in the Rate Sheet being refreshed.
- If a *role* or *resource* rate has been added in the activity sheet, the system updates the rate sheet being refreshed with the new *role* or *resource* rate along with the rates in the Master Rate Sheet.
- For a *role* or *resource* rate that appears across both the system activity sheet and rate sheet, the system updates the currency or Resource/Role name (if applicable), using the *role* or *resource* ID as the identifier.

A rate sheet in the Master Rate Sheet (at Company Workspace) is updated through P6, but a rate sheet in the Rate Sheet (at Project/Shell) gets updated in Unifier through the Master Rate Sheet at Company Workspace) and system activity sheet at that shell.

Master Rate Sheet and Oracle Primavera Cloud

When Unifier, Oracle Primavera Cloud, and Oracle Integration are integrated, you can use Oracle Integration recipes to update the Master Rate Sheet in Unifier with information from Oracle Primavera Cloud.

Accessing the Master Rate Sheet Log

To access the **Master Rate Sheet** log:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Master Rate Sheet**.

Note

The location of the node may differ in your implementation based on the **User Mode Navigator** configuration.

The **Master Rate Sheet** log displays the **Master Rate Sheet** created at the **Company Workspace** through P6/Oracle Primavera Cloud to Unifier integration.

The toolbar of the **Master Rate Sheet** log contains the **Get Data** option , which you can use to initiate the process of getting the data from P6 or Oracle Primavera Cloud.

The **Master Rate Sheet** log contains the following columns:

- **Name:** Displays the name of the Master Rate Sheet that has been created through integration; the name is "Master Rate Sheet."
- **Description:** It will be left blank while creating the Master Rate Sheet and is an editable field.
- **Last Updated:** Date when the Master Rate Sheet was last updated.

- **Created By:** The name of the user or administrator who created the Master Rate Sheet (at Company Workspace) through integration.

The *gear menu* () next to the **Master Rate Sheet** enables you to:

- **Open**
- **Export CSV**
 - Export Role Rate Breakdown
 - Export Resource Rate Breakdown
- **Update Data**
 - Import Role Rate Breakdown
 - Import Resource Rate Breakdown

The **Master Rate Sheet** log contains the following tabs (right pane):

Tab	Description
Audit Log	Stores all the changes made across all <i>roles</i> and <i>resource</i> present in the Master Rate Sheet (manual/synchronization).
Schedule	To schedule get data and see the history for a P6 integration only. The Schedule tab enables you to: • Set frequency for getting data or sending data (Set Frequency for). • Select the frequency time (Frequency). • Set the start and end dates.
History	The History tab enables you to see a history of changes made on the system activity sheet such as: • Action • Requestor • Initiated On • Start Date • End Date • Status

When you open the **Master Rate Sheet**, the **Master Rate Sheet - Resource** overlay page opens.

The **Master Rate Sheet - Resource** overlay page contains the following toolbars:

Option	Description
View	This option, which is located in the upper-right corner of the page, lets you select the items according to Resource or Role .
Status	Use this option to change the status of a selected record. The options include: Active , Inactive , and Delete
Print	Enables you to print or export the items listed on the page.
Refresh	To refresh the list of items on the page.
Edit View	To change the view of the listed items on the page.
Search	To search for a particular item.
Find on Page	To find an item on the page.

Option	Description
Collapse All Groups or Expand All Groups	Enables you to collapse or expand the items on the page.
Menu Options	Depending on the selected View, use this option to export or import role or resource information, color the rows, or access the Audit Log.

The **Master Rate Sheet - Resource** overlay page contains columns that provide details about the resource or role, such as the **ID**, **Name**, **Type**, **Currency**, **Units/Time(hr)**, and **Status**.

The *gear menu* () next to an item listed on the **Master Rate Sheet - Resource** page lets you expand or collapse a row.

Master Rate Sheet Log: Toolbar Functions

Get Data  is the only option available. Select **Get Data** to initiate the synchronization from the **Master Rate Sheet** node to fetch the global roles and resources data from P6 or Oracle Primavera Cloud. Currency and Rates are not imported on subsequent synchronizations. Only resource and role lists are updated. Rates can be modified in the **Master Rate Sheet**.

The main grid of the log displays the **Master Rate Sheet**. The log columns are as follows:

- **Name:** Master Rate Sheet
- **Description:** Master list of Resource and Role. Not editable.
- **Last Updated:** Date when sheet was last updated via synchronization or manually.
- **Created By:** The user who initiated the synchronization.

The *gear menu* () for the **Master Rate Sheet** are:

- **Open:** Select to open the Master Rate Sheet.
- **Export CSV:** Use the options to export Role or Resource Rates as CSV. This comprises the global list imported from P6 or Oracle Primavera Cloud. The structure includes the following information:
 - Resource ID
 - Resource Name
 - Resource Type (Labor, Non-labor, Material)
 - Status
 - Effective From
 - Price/Unit
- **Update Data:** Use the options to import the modified Role or Resource Rates CSV files to update role and resource rates.

Note

You cannot modify the name and status fields in the import file. The rest (ID, effective from date and price/unit) are all required fields.

Master Rate Sheet Log: Tabs

The right pane of the Master Rate Sheet log has the following tabs: **Audit Log**, **Schedule**, and **History**

The **Audit Log** tab tracks all changes made inside the rate sheet.

The **Schedule** tab allows you to set the frequency of automatically running the Get Data synchronization at daily, weekly, monthly, or quarterly intervals between the specified start and end dates. This feature is only available for a P6 integration.

The **History** tab captures information about manual/synchronization (schedule get data) job. The toolbar has **Refresh** and **Find on Page** functions. When you select **Refresh**, Unifier refreshes the History. This enables you to track the status of an ongoing synchronization. For example, when you select **Get Data**, and switch to the **History** tab, and you see new record with "Running" (sometimes empty), and then select **Refresh** to see the status changed to "Completed," if the job is done.

Status values for tasks initiated through **Get Data** for P6 include:

- Running
- Completed
- Failed

Status values for tasks initiated through **Get Data** for Oracle Integration include:

- Initiated
- Started
- Completed
- Failed

The following rules are followed while synchronizing the **Master Rate Sheet** data with P6 or Oracle Primavera Cloud:

- If a resource/role has been removed from the global list in P6 or Oracle Primavera Cloud, the **Master Rate Sheet** role/resource and corresponding rates will not change.
- If a resource/role has been added to the global list in P6 or Oracle Primavera Cloud, the new role/resource is added to the **Master Rate Sheet** along with its corresponding rates.
- If the resource/role exists in both P6/Oracle Primavera Cloud and the **Master Rate Sheet**, the system updates only the resource/role name, if applicable (using resource or role ID as the identifier).

Opening the Master Rate Sheet

To open the Master Rate Sheet, select the *gear menu* () , and select **Open**. When opened, the **Master Rate Sheet** displays as an overlay.

The **Master Rate Sheet** log has the following toolbar options:

- **View**
- **Status**
-  **Print**

-  **Refresh**
-  **Find on Page**
-  **Expand All Groups** or  **Collapse All Groups**

The **Status** option enables you to assign one of the following standings to a selected record on the sheet:

- **Active**
- **Inactive**
- **Deleted**

There are two default views available under the **View** option, which enables you to switch between views:

- **Resource**
- **Role**

The **Master Rate Sheet** log has the **Rates** tab, which provides Price/Unit, populated from P6 or Oracle Primavera Cloud. Select  **Create** to manually add new breakdown structure for the following:

- **Cost Type**
- **Rate Type**
- **Price/Unit**

To add new values, select  **Add**. When finished, select **Save** or **Save & Close**.

You can use a formula to establish rates based on other cost types. When you edit the cell Price/Unit, a formula icon is displayed and when you select the formula icon a new formula window will be displayed.

Note

In Master Rate Sheet some Resources or Roles have incorrect breakdown structure, but they are not assigned to any project. If the Resources or Roles have the correct breakdown structure in the project, the recost will work.

See [Earned Value Management Attributes](#) for details about column headings and elements. Refer to the *Unifier Data Reference Guide* for details on each element.

Master Rate Sheet and Manual Activity Sheet

The Master Rate Sheet receives the resources and roles values from the source, for example P6 or Oracle Primavera Cloud, and the standard rates.

A Master Rate Sheet is created by way of integration with P6, through Gateway, or with Oracle Primavera Cloud, through Oracle Integration. When your Master Rate Sheet is created by way of integration with P6 or Oracle Primavera Cloud, Unifier adds two fields to enable you define the calendar for a resource or role and the default number of units per day.

Similar to adding resources and roles to your shell activity sheet, you can manually add resources and roles to your Master Rate Sheet. When the resources and roles are integrated with P6 or Oracle Primavera Cloud, the application compares the calendar name in P6 or Oracle Primavera Cloud with the calendar name in Unifier.

- If the calendar names match, Unifier assigns the calendar to the resource and role.
- If the calendar names do not match, Unifier does not assign the calendar to the resource and role.

You can define and maintain new rates for the resources and roles in the Master Rate Sheet. The application uses this information across all the resource and role assignments in the System Activity Sheet across all shells, based on the Master Rate Sheet assigned.

Unifier supports defining multiple activity sheets, and the Master Rate Sheet supports the creation of resources and roles. In the Master Rate Sheet, you can define the standard rates and rate breakdown structure.

In general, if you have permission, you can:

- Define resources and roles in the Master Rate Sheet.
- Assign the resources and roles to the activities created in the custom activity sheets.
- Define the calendar for a resource or role and the default number of units per day.
- Define the standard rates for the resources and roles defined in the Master Rate Sheet.
- Provide a calendar and number of units per day for the resources and roles imported from P6 and assign the resources and roles to the activities in manual Activity Sheets.
- Get the resource calendar for the resources or roles that are created from P6 or Oracle Primavera Cloud (through integration), if the calendar name matches the custom calendars.

 Note

Existing Master Rate Sheet supports the creation of the resources and roles.

Manual Activity Sheets will allow the assignment of the resources and roles that are created within Master Rate Sheet and the resources or roles that are integrated with P6 or Oracle Primavera Cloud. After the assignments are added, the resource costs will be calculated based on the type of activity, whether it is task dependent or resource dependent.

View (Resource - User Defined)

The following toolbar options are displayed in the **Master Rate Sheet Resource - User Defined** log:

-  **Add Sibling**
-  **Add Child**
- **Status**
-  **Print**
-  **Refresh**
-  **Find on Page**

-  **Expand All Groups** and  **Collapse All Groups**
-  **Menu Options**

You can add the resources by selecting **Add Siblings**. This action creates the first row in the log which enables you to define the resource **ID** and **Name**. There will be a unique value validation for both **ID** and **Name** when entering the value.

- The **ID** field supports only alphanumeric characters (max 50 characters).
- The **Name** field supports only alphanumeric characters (max 80 characters).

The manually added resource or role **ID** must be unique in the Master Rate Sheet, across the views.

Add Labor Type Resource: When adding a resource, you can select the type as **Labor**, **Non Labor**, or **Material**. By default, the resource type will be **Labor**. You can switch between the types (from **Labor** to **Non Labor** or to **Material**) for the existing resources in the **Resource** view.

 Note

You cannot change the type after the resource is assigned to an activity sheet.

Currency: You can select a currency by using the **Currency** field drop-down. The default currency value will be the company default currency. The list of currencies displayed in the **Currency** field drop-down will be from the **Standards & Libraries**.

 Note

You cannot change the currency after the resource is assigned to an activity sheet.

The tooltip for the currency will indicate that the currency that was selected for your resource will be used in the custom activity sheets.

Units/day: You can select the default **Units/day** in this column. By default, 8 units per day is displayed, but you can update the resource capacity to up to any of number of units per day. The valid decimal value in this column is between 0 and 999,999.

The tooltip for the **Units/day** will indicate that the value for units, or time, selected for your resource will be used in the custom activity sheets. The default value is 8:00 units per day.

Status: The **Status** can be active or inactive. By default, the active status will be selected for a new resource.

Add Non Labor Type Resource: You can add a non-labor type resource by selecting the type as Non Labor. The creation of a Non labor resource is similar to a Labor resource.

 Note

The unit of measure is not applicable in the case of labor type and non-labor type resources.

Add Material Type Resource: You can create a material-type resource by selecting the type as Material. The **Currency** and **Calendar** fields can be set for a material-type resource the same way that they are set to a **Labor** resource. You can specify the unit of measure when creating a material-type resource. The unit of measure (**UoM**) field will display a list of all the unit of measures available under **Unit of Measure** (in the left Navigator, select **Data Structure Setup**, select **Data Definitions**, and then select **Unit of Measure**). The administrator can set additional **UoM**.

Creating Master Rate Sheet

When you go to your **Company Workspace (User mode)** and select the **Master Rate Sheet** node, the **Master Rate Sheet** log opens. If there is no existing Master Rate Sheet, and you have the **Create** permission, the **Master Rate Sheet** log displays the **Create** option enabling you to create a new Master Rate Sheet.

Creating Master Rate Sheet Manually (Properties)

In the **Master Rate Sheet** log, you can create a Master Rate Sheet either through the **Get Data** integration or through the **Create** options.

Note

If a Master Rate Sheet is available and you select **Get Data**, the existing Master Rate Sheet will be updated with the latest data from P6 or Oracle Primavera Cloud.

You can manually create a Master Rate Sheet in the **Master Rate Sheet** log if:

- There is no Master Rate Sheet defined and present in the log, and you have the **Create** permission only.
In this scenario, after you select **Create**, the **Master Rate Sheet Properties** window opens which enables you to enter a name and description for the Master Rate Sheet and select **Create** to open the **Master Rate Sheet** window.
- There is no Master Rate Sheet defined and present in the log, and you have the **Get Data** permission only.
In this scenario, you select **Get Data** to proceed with manually creating a **Master Rate Sheet**, by way of integration.
- There is no Master Rate Sheet defined and present in the log, and you have both the **Create** and the **Get Data** permissions.
In this scenario, you select either the **Create** option or the **Get Data** option to proceed with manually creating a Master Rate Sheet.

When the **Master Rate Sheet** log has an item (a Master Rate Sheet created through integration or manually), the **Master Rate Sheet** log displays the item **Name** as "Master Rate Sheet" and the item **Description** as "Master Sheet for Roles and Resources."

The **Master Rate Sheet** log will also contain the following information:

- **Last Updated**
- **Created By**

When the **Master Rate Sheet** log has an item, or an item is created, the right pane of the screen will display the following tabs:

- **Audit Log** tab

- **Schedule** tab
- **History** tab

The **Audit Log** tab displays the current events through the Master Rate Sheet option when in the **View** (for example, when **Resource - P6** or **Role - P6** is selected).

This topic explains the **Audit Log** tab in the user-defined and P6/Oracle Primavera Cloud views for resources and roles. Events such as Create, Update, and Remove of the resources and roles in a User Defined view will be audited along with the existing audit log events for resources and roles received from P6 or Oracle Primavera Cloud.

When a resource or role is added through CSV import, only an entry per resource or role will be added in **Audit Log** for each successful creation of a resource or role. The **Audit Log** entries of the User Defined view for resources or roles are as follows:

Date	Event	Action	Field Name	Old Value	New Value	User Name
Date and Timestamp of the event occurred	Resource > <Resource ID> or Role > <Role ID>	Create	Resource > <Field or Column Name> or Role > <Field Name>	NA	<NewValue>	<Logged in Username>
Date and Timestamp of the event occurred	Resource > <Resource ID> or Role > <Role ID>	Update	Resource > <Field or Column Name> or Role > <Field Name>	<OldValue>	<NewValue>	<Logged in Username>
Date and Timestamp of the event occurred	Resource > <Resource ID> or Role > <Role ID>	Delete	Resource > <Field or Column Name> or Role > <Field Name>	NA	NA	<Logged in Username>
Date and Timestamp of the event occurred	Import	Create	Resource > <Resource ID>	NA	<NewValue>	<Logged in Username>

The **Audit Log** entries (for updated resources or roles received from P6 or Oracle Primavera Cloud) when you add or update the values for the **Calendar** and **Units/day** fields are as follows:

Date	Event	Action	Field Name	Old Value	New Value	User Name
Date and Timestamp of the event occurred	Resource > <Resource ID - Name> or Role > <Role ID - Name>	Update	Resource ID > Calendar	<OldValue>	<NewValue>	<Logged in Username>
Date and Timestamp of the event occurred	Resource > <Resource ID - Name> or Role > <Role ID - Name>	Update	Resource ID > Units/day	<OldValue>	<NewValue>	<Logged in Username>

You can enter values in the **Schedule** tab fields only if you have the **Get Data** permission. If you create a Master Rate Sheet manually (using the **Create** option), there will be no details on

the right pane until the data is received from the source. If the Master Rate Sheet has data coming from P6 or Oracle Primavera Cloud, the right pane shows both the **Schedule** and **History** tabs.

The **History** tab displays the following information:

- **Action**
- **Requestor**
- **Initiated On**
- **Start Date**
- **End Date**
- **Status**

The column above contains the history of the changes made to the **Master Rate Sheet**.

Master Rate Sheet (View)

When you open the **Master Rate Sheet**, the following view options (**View** field) are available, which enables you to select different views of the Master Rate Sheet:

Note

To see the different views, you must have the **Get Data** and **Create** permissions, and the Resources and Roles values are received from P6 or Oracle Primavera Cloud.

- **Resource - User Defined**
- **Resource - P6**
- **Resource - Primavera Cloud**
- **Resource - All Sources**
- **Role - User Defined**
- **Role - P6**
- **Role - Primavera Cloud**
- **Role - All Sources**

If the Resources and Roles values are not received from P6 or Oracle Primavera Cloud, the following view options are available:

- **Resource - User Defined**
- **Role - User Defined**

The following explains the various scenarios for the **View** options:

- If the Master Rate Sheet is created with existing resources and roles received from P6 or Oracle Primavera Cloud and you have **Create** permission, you can add resources using the options from the toolbar. When you open the Master Rate Sheet, the **View** drop-down will display **Resource** as an option. The **Add Sibling** and **Add Child** toolbar options will be displayed, for adding resources in a hierarchy. You can switch between custom resources and roles and P6 or Oracle Primavera Cloud resources and roles. The toolbar options will be updated based on the selected view.

If you select **Resource - P6** or **Resource - Primavera Cloud**, you can add or update the **Rates**, **Calendar**, and **Units/day** columns for the resources and roles. Also, you can update the status of the resource, from active to inactive or delete.

- If the Master Rate Sheet is created with existing resources and roles received from P6 or Oracle Primavera Cloud and you do not have **Create** permission, the Master Rate Sheet will only receive data from P6 or Oracle Primavera Cloud, and the following **View** drop-down options will be displayed:
 - **Resource - P6**
 - **Resource - Primavera Cloud**
 - **Role - P6**
 - **Role - Primavera Cloud**

In this scenario, the resources and roles will be received from P6 or Oracle Primavera Cloud, and they are read-only in the Master Rate Sheet. You will be able to update or add standard and breakdown rates to the resources and roles.

Note

- If you select **Resource - P6/Primavera Cloud** or **Role - P6/Primavera Cloud**, the **Units/day** column will be displayed.
- The resource calendar might not be displayed, depending on the version of Unifier that you use.
- Unifier uses the **Units/day** column selected for the resource in manual activity sheets to calculate units when resources are assigned to activities.

- If the Master Rate Sheet is without an existing resources and roles received from P6 or Oracle Primavera Cloud and you have **Create** permission, when you create or open the Master Rate Sheet, the following **View** drop-down options will be displayed:

- **Resource - User Defined**
- **Role - User Defined**

When you select **Resource - User Defined**, the toolbar will display options that enable you to add resources. The Master Rate Sheet can be edited, for existing resources, if rates are available. You can add new sibling, or child, resources, by using the *gear menu* (). The cut, copy, and paste options are available for rearranging the resources.

You can drag-and-drop resources within the user-defined view.

- If the Master Rate Sheet is without an existing resources and roles received from P6 or Oracle Primavera Cloud and you only have **Get Data** permission, when you create or open the Master Rate Sheet, the following **View** drop-down options will be displayed:
 - **Resource - P6**
 - **Resource - Primavera Cloud**
 - **Role - P6**
 - **Role - Primavera Cloud**
- If the Master Rate Sheet is without an existing resources and roles received from P6 or Oracle Primavera Cloud, and you have both **Get Data** and **Create** permissions, you can create a Master Rate Sheet through one of the following methods:
 - Using the **Get Data** option from the Master Rate Sheet log

- Using the **Create** option

If the **Get Data** option is displayed, the **Create** option will be disabled.

- If you select the **Get Data** option, the **Create** option will be disabled. If the Master Rate Sheet is created in the log, the **Create** option will not be seen in the log. When you create or open the Master Rate Sheet, the **View** drop-down will show the following options:
 - **Resource - User Defined**
 - **Role - User Defined**

Adding Resources

You can use the *gear menu* () to add a hierarchy (**Add Sibling** and **Add Child**) of the resources:

- **Add Sibling:** See the toolbar options, above.
- **Add Child:** See the toolbar options, above.
- **Remove:** You can delete the resources and roles that are no longer used. If you delete a parent resource, the child rows (under the parent) will be deleted.

When a resource is not used in an activity sheet, if you select on a resource and select **Remove**, all the selected resources will be deleted.

When a resource is used in an activity sheet, if you select a resource and select **Remove**, the resource will be removed from the Master Rate Sheet and from all the activity sheets, where this resource is associated. If multiple resources are selected and one resource is associated to the activity sheet, the resource will be removed from the Master Rate Sheet and from all the activity sheets

- **Cut or Paste:** You can select one or more resources, or roles, under a parent and select Cut. When you paste the selected resources, or roles, at the destination, the selected resources, or roles, will be removed from the original location and added to the destination, as siblings for the selected resource. When you select a parent row, the child rows will be selected; therefore, if you select Cut and paste the selection in the destination, both the parent and the child rows will be removed from the original location and added to the destination.
- **Copy or Paste:** The copy and paste function is similar to the cut and paste function, except that the rows selected will be copied into destination row and will not be removed from the original location. When the row is pasted in the destination, by default the ID will be shown as "**Copy of <Source Resource ID>**" and the Name will be "**Copy of <Source Resource Name>**." The **Paste** option will not be shown in the *gear menu* until you select a new row and select **Cut** or **Copy**.

Assigning Standard Rates, New Rates, and Rate Breakdowns

You can assign Standard Rate and Rate Breakdowns for the resources that were created manually, or through CSV import, in the Master Rate Sheet.

After the resource has been created, the right pane displays the **Rates** tab which will allow the creation of the **Standard** tab for the created resource.

The toolbar in the **Rates** tab, for the selected resource, will have the **Create** option. The **Create** option, enables you to open a rate breakdown structure grid and define the standard rates and rate breakdowns, by using the rate breakdown structure.

In the **New Rate Breakdown** window, you can add a new rate breakdown, modify or remove an existing rate breakdown, and define the rates per effective date. The **Effective From** field, the **New Rate Breakdown** window, is editable and displays the current date. By default, the row which shows the rate per unit with the effective data will show the latest effective date that rate becomes active. The **Code Type** and the **Rate Type** fields (drop-down) display **Standard** and **Direct**, by default. You can use the **Price / Unit** field to add rate.

You create a new rate breakdown by using a copy of an existing rate (right-click a row, and select **Copy**). The generated grid title will be shown as the **Copy of Rate Breakdown** with the effective date editable, and all the existing rate breakdowns copied over. To complete creating a new breakdown, select **Save**.

Master Rate Sheet Resource

The following explains:

- Master Rate Sheet: Resource - P6 or Resource - Primavera Cloud
- Master Rate Sheet: Resource - All Sources (resource generic)

Master Rate Sheet: Resource - P6 or Resource - Primavera Cloud

In the **Resource - P6** or **Resource - Primavera Cloud** view, all the resources that are received from P6 or Oracle Primavera Cloud will be seen. The following resource fields are read-only:

Note

Depending on your Unifier version, you might not receive any calendars from the resource when P6 resources are integrated by way of Gateway integration.

- **ID**
- **Name**
- **Type**
- **Status**
- **Currency**

Also, two additional columns will be displayed:

- **Calendar**
- **Units/day**

The columns above are editable in this view.

By default:

The **Calendar** column will contain the calendar information that is coming from P6 or Oracle Primavera Cloud, if the source has a calendar with the same name. You can assign a user-defined calendar in the **Calendar** column.

Note

Unifier does not receive calendars from a source when resources are created through a Gateway integration.

The company calendar which is set as default will be assigned to all the resources that are created from P6 or Oracle Primavera Cloud. For **Labor** type and **Non labor** type resources, the default value of the **Units/day** will be 8.00 units/day.

Master Rate Sheet: Resource - All Sources (resource generic)

In the **Resource - All Sources** view, all the resources that are received from P6 or Oracle Primavera Cloud, and are created in Unifier, will be seen. The following resource fields are read-only:

- **ID**
- **Name**
- **Type**
- **Status**
- **Currency**

Also, two additional columns will be displayed:

- **Units/day**
- **Status**

The columns above are read-only in this view.

The values in the **Source** column will populate with the source of the resource created (User Defined, P6, or Primavera Cloud).

All the data seen in this view is read-only.

By default, the **ID** column will be sorted in ascending order.

Master Rate Sheet: Role - All Sources

In the **Role - All Sources** view, all the resources that are received from P6 or Oracle Primavera Cloud, and are created in Unifier, will be seen. The following resource fields are read-only:

- **ID**
- **Name**
- **Source**
- **Currency**
- **Calendar**

Also, two additional columns will be displayed:

- **Units/day**
- **Status**

The columns above are read-only in this view.

Adding Roles Manually

You can add user-defined roles in a similar way that you add the user-defined resources.

If you have the Create permission, when you navigate to **View** and select **Role**, the system displays a toolbar option that enables you to add, update, or remove roles.

When you add a role, the values for the **ID** and the **Name** fields are required, and the value for the **Currency** field will be *USD*, by default. You can change the role currency and the maximum number of units per day. By default, the role status is set as **Active**.

Note

The system validates the uniqueness of the values in the ID and Name columns in the role.

You cannot create a role with the same ID across all roles (user-defined, P6, Oracle Primavera Cloud, or all three). When you define the role in the **Role - User Defined** view, the following columns show default values:

- **Currency:** Set to the Base Currency.
- **Units/day:** Set to 8.00 units per day.
- **Status:** Set to Active.

If you try to change role details such as **ID**, **Currency**, and so forth, you must assign the standard rate and rate breakdowns for the custom roles. After you create the role, the right pane displays the **Rates** tab. In the **Rates** tab you can create the **Standard** tab for the created resource.

When you select the **Add Rate** option, the **Rate Breakdown Structure** window opens. In this window, you can define the standard rates and the rate breakdowns. You can define the rate according to the effective date. By default, for the standard rate the cost type and rate type will be **Standard** and **Direct**.

Adding Standard Rates and Rate Breakdowns

You can assign Standard Rate and Rate Breakdowns for custom roles.

After the roles have been created, the right pane will show the **Rates** tab which will allow you to create the **Standard** tab for the created resource. The **Add Rate** option, on the toolbar, opens the **Rate Breakdown Structure** window. In the **Rate Breakdown Structure** window, you can define the standard rates and the rate breakdowns. You can define the rates per effective date. By default, for the standard rate the cost type and rate type will be **Standard** and **Direct**.

You can add new or modify or remove existing rate breakdown and select **Save** to create a new breakdown with different effective date.

You can edit the existing rate and effective date. By default, when you expand the row, the row will display the rate per unit, with the latest effective date from which point the rate becomes active.

You can create a new rate breakdown by copying (**Copy From**) an existing rate (a row). In this scenario, a new rate breakdown grid will be displayed above the existing rate breakdown. The grid title will be "**Copy of Rate Breakdown**," and the effective date is editable.

Importing Resources, Roles, and Rate Breakdown

You can create resources by way of CSV import. When you select Resource or Role as the view, the Menu option will allow for import or export.

When you select Resource as the view, the following export options are available:

Export, and then select **Resource Template**

Resource Rate Breakdown

The **Resource Rate Breakdown** option is available in the **Menu** option, for P6, Oracle Primavera Cloud, Resource, and Role views.

Import

Resource Rate Breakdown

The **Resource Rate Breakdown** option is available in the **Menu** option, for P6, Oracle Primavera Cloud, Resource, and Role views.

When you select Role as the view, the following export options are available:

Export

- **Role Template**
- **Role Rate Breakdown**

Import

- **Roles**
- **Role Rate Breakdown**

You can create resources in the custom view by using the **Menu** option, selecting **Import**, and then selecting **Resources**.

When you select **Export**, and then select **Resource Template**, Unifier exports the CSV template, which lists all the columns that are seen in the Master Rate Sheet, along with the rate breakdown columns.

The following fields are required in the CSV template:

- Resource ID
- Resource Name

If you do not provide values for the following fields, the system uses the default values:

- **Type**
- **Calendar**
- **Units/day**
- **Status**

You will encounter an error if the CSV template that is being imported contains rows with the same ID, when adding resources or roles by using the CSV template import.

You can import resources in a hierarchy by using ~~ (two consecutive tilde symbols) between parent ID and child ID.

You need to include the entire path (for the ID) in the CSV template to be able to import the resources or roles in a structure.

Ensure that you verify the validity of values in the following columns:

Type:

- **Labor**
- **Non Labor**
- **Material**

The default value is Labor.

Unit of Measure:

The default value is the value that has been set, as default, in the Unit of Measure field in the Data Structure Setup.

- **Status**
- **Active**
- **Inactive**

The default value is Active.

Currency:

All the currency symbols along with currency names that are available under the **Currencies** sub-node in **Standards & Libraries**. Default value is Base Currency.

Units/day:

A valid decimal value (any number between 1 to 999,999).

Rate Breakdown Import

 Note

The following fields are supported for Rate Breakdown Import only. The following additional columns will be available for the rate breakdown import, for existing resources and roles. More details are available in the "CSV Import for Role and Resource Rates" topic. This topic explains the import of resource and role breakdowns for the Resources and Roles created in 'Resource' drop-down.

Effective date:

It is a date only column and only dates are allowed. All the date-related validations will be performed, according to the date preferences.

Price/Unit:

Any positive decimal value. The value cannot be a negative number.

The following columns are displayed in the exported **Role Template**:

- **Role ID**

- **Role Name**
- **Currency**
- **Units/day**
- **Status**

Only the **Role ID** and **Role Name** are required in the exported CSV template. The other columns will take default values, if the values are not provided in the input CSV file.

You can import new resources using the downloaded CSV file. When creating resources through CSV import, the resources are always appended to the existing resources in the **Custom - Resource** view.

The following explains the CSV import validations:

- You can enter ID in hierarchy by using: <Parent ID> ~~ <Child ID>.
- You can verify the uniqueness for the ID when you are creating the resources/roles using CSV import.
- Unifier sorts the added resources/roles according to the column sorting.
- When a resource is created through CSV import, the ID and Name fields will be required fields and must have unique values. Additional columns like Currency, Calendar, Units/day, and Status will show default values if no value is provided in the CSV file.
- When importing resources and roles, if the parent exists, the child will get created. Similarly, you can import both parent and child together provided that the parent only is in one row and a parent with child is in a separate row, in the input CSV file.

CSV Import for Role and Resource Rates

When you use a CSV file to export role rates or resource rates, the following additional columns are added:

- **Cost Type**
- **Rate Type**

Use these columns to provide rate breakdowns.

When you use a CSV file to export role breakdown, the file shows the roles with existing breakdowns, similar to the resource breakdown.

Note

You cannot import a role or resource without cost-type value or rate-type value.

An exported CSV must show the cost-type and rate-type values, as they are required.

Activity Manager

The **Activity Manager** node, or module, contains the following sub-nodes, when available:

- **Activity Sheet**
- **OBS Sheet**

- **Rate Sheet**
- **WBS Sheet**

To access the **Activity Manager** node:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager** to expand it.

The following table provides summary details about each sub-node.

Note

To view the **Activity Sheet**, or other sheets, you must have the appropriate permissions.

You can create user-defined reports (UDRs) from the Activity Sheet Data Elements (DEs).

For a cost loaded schedule, Unifier does not perform any calculations in Unifier; it uses the data directly from P6.

The **Activity Manager** node contains the following sub-nodes:

Sub-node name	Description
Activity Sheet	The Activity Sheet sub-node contains a list of activity sheets listed in the Activity Sheets log. You can have multiple activity sheets. An activity sheet captures scheduling data from the mapped P6 or Oracle Primavera Cloud projects and role and resource rates from the company-level Master Rate Sheet (default) or shell-level rate sheets, and calculates the Earned Values metrics and derivatives. It is the primary source of data for the Earned Value Analysis.

Sub-node name	Description
Rate Sheet	The Rate Sheet node captures the list of resources and roles (based on the latest data available in activity sheet) and corresponding rates from the master rate sheet. In P6 or Oracle Primavera Cloud, users can assign a role, or resource, to an activity under the Assignments tab of an activity for any project. In P6 or Oracle Primavera Cloud, rates are assigned to a role or resource at global level. To maintain the consistency, the system will import the P6 or Oracle Primavera Cloud global data to the Unifier Company Workspace. This data will be captured under a new entity called Master Rate Sheet. The rate sheet being created through P6/Oracle Primavera Cloud to Unifier integration will be saved as 'Master Rate Sheet' under a new node in Company Workspace called Master Rate Sheet. The rates (Price/Unit) for assigned roles and resources are managed at global level in P6 or Oracle Primavera Cloud, which can then be used in a project while doing the costing (calculating Present Value, Earned Value, and so on) of the project depending on the rate source (resource, role, or override) corresponding to that assignment in an activity. For a resource loaded schedule, we need rates corresponding to roles and resources for costing of any project in Unifier. There will be two types of rate sheets: • Master Rate Sheet (at company workspace) • Rate Sheet (at Shell) explained in the subsequent sections. A company will only have one Rate Sheet called the "Master Rate Sheet." So, users are not allowed to create a copy sheet of the Master Rate Sheet under company workspace. This sheet will contain rates for both roles and resources, users will be able to toggle between resource and role rates from the display. By default, the rates present in master rate sheet will be used across all the resources and roles present in all activity sheets across all shells unless user has assigned another rate sheet present at the shell level to the activity sheet/project.
WBS Sheet	A WBS Sheet (Work Breakdown Structure sheet) contains the following information: • Planned Units • Planned Total Cost • Actual Units • Actual Total Cost • Remaining Units • Remaining Total Cost • At Completion Units • At Completion Total Cost The WBS Sheet node log displays the only available WBS sheet.

Sub-node name	Description
OBS Sheet	An OBS Sheet (Organization Breakdown Structure sheet) contains the following information: • Full Name • Short Name • Unifier User • Title • Department • Status • WBS Name • Contract No • Weekly Capacity The OBS Sheet node log displays the only available OBS sheet.

This section provides information about the **System Activity Sheet**. For information related to the manual activity sheets, refer to the *Unifier Managers User Guide*.

Activity Sheet Sub-Node: Activity Sheets Log and System Activity Sheet

The **Activity Sheet** sub-node contains a list of activity sheets, including the **System Activity Sheet**, and they are all listed in the **Activity Sheets** log.

You can use an activity sheet to capture the scheduling data from P6 or Oracle Primavera Cloud. A single activity sheet (called **System Activity Sheet**) is mapped to multiple source projects, by way of integration. To ensure that Cash Flow curves represent CBS codes, schedule dates, and costs from the baseline and not just the current project, you can manually enter CBS codes on the Activity Sheet when you switch to Baseline Project View.

The source project (**P6** or **Oracle Primavera Cloud Project**) drop-down field is visible at the top of the system activity sheet as, "<Source name> Project : <Project ID>." The source project drop-down contains a list only if the activity sheet received activity data from multiple source projects. The link to the source project is based on the source URL (provided in the **Company Settings**). Also:

When connected to P6 or Oracle Primavera Cloud applications:

- If the selected project is open in the application, the data for the corresponding project (along with other projects, if they exist) is displayed.
- If a project other than the selected project is open in the application, only the data for the project other than the selected project is displayed. In this scenario, the data for the selected project is not displayed.
- If no project is selected in the application, the **Open** (projects) window is displayed that enables you to select the project for which you want to view the schedule

When not connected to P6 and Oracle Primavera Cloud applications:

The source application login page is displayed.

You have the option to view the activities (from the mapped source projects) by using the project drop-down field which contains a list of all source projects mapped to your shell.

The **Activity Manager** enables you to create, consolidate, and monitor activities that must be completed on a schedule.

You can have multiple activity sheets.

A **System Activity Sheet** captures the scheduling data from the mapped P6 or Oracle Primavera Cloud projects and role and resource rates from the company-level **Master Rate Sheet** (default) or shell-level rate sheets, and calculates the Earned Values metrics and derivatives. When Unifier, Oracle Primavera Cloud, and Oracle Integration are integrated, you can use Oracle Integration recipes to update the System Activity Sheet or the Master Rate Sheet (or both) in Unifier with information from Oracle Primavera Cloud. A **System Activity Sheet** is the primary source of data for the Earned Value Analysis.

After the P6/Oracle Primavera Cloud to Unifier integration has been run and P6/Oracle Primavera Cloud projects mapped in the **Integration** tab of shell details, a single **System Activity Sheet** can be created in the **Activity Sheets** log of the shell.

To access the Activity Sheets log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheets** to access the **Activity Sheets** log.

Each P6/Oracle Primavera Cloud project is associated with a baseline project sheet and a current schedule project sheet. The activity sheet allows you to switch between baseline and current project types and view the specific scheduling information - activities, assignments, dates, and so forth.

Once produced, the baseline project sheet cannot be altered; however, you can update the current project sheet, per Data Date.

If you update the project baseline in P6/Oracle Primavera Cloud, the project baseline will get updated in Unifier (when running the sync by selecting the Baseline option for the respective project).

P6/Oracle Primavera Cloud projects in the **System Activity Sheet** are classified as:

Project Classification	Description
Duration Based projects	The Duration Based projects bring activity duration data only. They do not include resource assignment or cost related information, and are, therefore, not available for Earned Value analysis.
Resource Loaded projects	The Resource Loaded projects load duration and resource assignment information but not cost related information from P6/Oracle Primavera Cloud. You can assign a rate sheet and costing to calculate resource costs in the projects. After costing is completed, they are available for Earned Value analysis.
Cost Loaded projects	The Cost Loaded projects bring duration, resource assignment, as well as cost information from P6/Oracle Primavera Cloud. No further cost calculation is necessary. You can directly use the Earned Value module for cost comparisons and analyses in these projects.

After integration, the data brought in to the **System Activity Sheet** are constrained by project categories, and the constraints govern the behavior of the **System Activity Sheet**.

The following explains the **Activity Sheets** log elements, followed by information specific to the **System Activity Sheet**.

Activity Sheets Log and System Activity Sheet

The **Activity Sheets** log lists the activity sheets which capture project scheduling data coming from P6 or Oracle Primavera Cloud.

To access the **Activity Sheets** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.

① Note

The location may differ in your implementation based on the Project/Shell **User Mode Navigator** configuration.

You can use the **Activity Sheets** log to access your **System Activity Sheet**.

① Note

In the **Activity Sheets** log, if you open an activity sheet that has more than 1000 activities, the system will take time to prepare the list.

If your administrator defined views for the Activity Sheet or System Activity Sheet and pushed them to your project/shell, these views are listed in the **Manage Views** dialog box of the sheet that you open. You can make these views visible in your sheet, and you can change the order in which they are listed. After they are visible, you can use them to create additional custom views. You cannot edit or delete the predefined views. If the administrator pushes additional updates to the template, custom views that you created are deleted. For more information on creating and managing views, see *Creating and Managing Views in Activity Sheets* and the *System Activity Sheet*.

Activity Sheets Log (Toolbar Options)

If you have the **Create Manual Activity Sheets** permission or the **Full Access** permission (see *Activity Sheet in Shell (User Mode) Permissions*), the toolbar options in the **Activity Sheets** log are as follows:

Toolbar Option	Description
Create	Enables you to create new activity sheets. This option is enabled when the user has at least the Create permission for the manual activity sheets. The Create option has two sub-options to support the manual creation of an activity sheet and creating an activity sheet from Activity Sheet template (when the Activity Sheet templates is made available in Admin mode). When you select Create, the application checks for Manual Activity Attribute Form, if a system activity sheet has been created by using the System Activity Sheet Attribute Form. If there is no System Activity Sheet Attribute Form defined, or there is no Manual Activity Attribute Form, in the design, the application uses the canned form for the activities in the activity sheet. An Activity Attribute Form must be defined to create custom activity sheets. If a System Activity Attribute Form is defined in uDesigner, but no Manual Activity Attribute Form exists, the following message displays: <i>Activity attribute form must be defined in order to create custom activity sheets.</i>
View	Enables you to select how to view the list of the activity sheets that are available. To be able to see any activity sheets in the Activity Sheets log, you must have the View permission, or above. The View drop-down field displays the following out-of-the box, or default, options: • All: To display all the activity sheets. • Active: To display all the activity sheets with active status. Available if there are activity sheets in the log that have active status.  Note The System Activity Sheet will be active (Status) at all times, and the status cannot be changed.
Actions	To set permissions and import options: • Permissions: To assign a rate sheet to the activity sheet: • Assign Rate Sheet: To assign activity sheet-level permissions similar to the record-level permissions set for the non-Workflow BPs. • Import (Microsoft MPP or P6 XML)

Toolbar Option	Description
Get Data  Get Data into Activity Sheet	Enables you to create a System activity sheet for the first time, or update an existing activity sheet with the most recent data from P6, Oracle Primavera Cloud, or Oracle Integration. The Get Data synchronization that created the activity sheet also populates the activity sheet with the: - Scheduling data (activities along with assignments and spread data) from the P6 projects mapped to the current shell in the Integration tab.  Note The integration of scheduling data is not currently supported with Oracle Primavera Cloud. - Role and resource rates data from the Master Rate Sheet for the mapped projects. Subsequent updates of Role and Resource Rates in P6 or Oracle Primavera Cloud will not trigger the updates in the Master Rate Sheet. Subsequent updates of CBS Code for activities in P6 will trigger the updates in the Activity Sheet CBS assignments. The Get Data option will be enabled when you have: Get Data permission at the node level in the Permissions tab. This option enables you to receive the schedules from P6 or Oracle Primavera Cloud based on synchronization selected in Gateway settings. - Set up an Oracle Integration connection, and relevant integrations have been configured for Manual Activity Sheets, System Activity Sheets, or the Master Rate Sheet when you select Company Workspace, select Integrations, and select the Oracle Integration Cloud node. Use the Get Data option to: - Create an activity sheet for the first time - Update an existing activity sheet with the most recent activity spread data from an Oracle Primavera Cloud project Updating an existing activity sheet triggers a new out-of-the-box import synchronization if you have selected the Select Synchronization to Exchange Activity Data option in the Gateway integration settings drop-down list. All the synchronized Oracle Primavera Cloud project activities, planned dates, actual, at completion dates, and associated WBS Code will be displayed in the activity sheet.

Toolbar Option	Description
	Note A WBS code assignment is applicable to only manual activity sheet; whereas a CBS code assignment is applicable to both manual and system activity sheet. If the shell is not active (inactive shell), integration with Gateway or Oracle Integration fails. If Oracle Primavera Cloud and Unifier projects are linked, when you select Get Data, the system checks for the Oracle Primavera Cloud project defined in the Integration tab, and then brings the Oracle Primavera Cloud project activity data and their schedules into the activity sheet based on the import synchronization defined in Gateway settings. If you select Get Data, and a Project ID has not been specified in the Integration tab, the following message displays: <i>Valid Project ID is not specified in the Shell Integration Tab.</i> The system does not bring the baseline (project data) from Oracle Primavera Cloud.

Toolbar Option	Description
Send Data  Send Data from Activity Sheet	Enables you to send data from Unifier to P6 or Oracle Primavera Cloud. This will trigger the synchronizations at the Gateway level.  Note The Send Data feature is not currently supported with Oracle Primavera Cloud through Oracle Integration. The Send Data option will be enabled when you have: • Send Data permission at the node level in the Permissions tab. This option enables you to receive the schedules from P6 or Oracle Primavera Cloud based on synchronization selected in Gateway settings. • Set up an Oracle Integration connection, and relevant integrations have been configured for Manual Activity Sheets, System Activity Sheets, or the Master Rate Sheet when you select Company Workspace, select Integrations, and select the Oracle Integration Cloud node. Use the Send Data option to run the export synchronization to send updated activities and schedules from Unifier Activity Sheet to Oracle Primavera Cloud. The data elements in the business processes, or the Shell Attribute Form, which have been set to reverse auto-populate (RAP) back to the Oracle Primavera Cloud Activity Sheet (using P6 Activity Picker) will get the latest updates into the Oracle Primavera Cloud Activity Sheet. You can send updated Activity Sheet data (such as updated Actual Start Date or Finish Dates) to the Oracle Primavera Cloud project which is linked by way of the out-of-the-box export synchronization option, Update Unifier Activity data to Oracle Primavera Cloud. The Schedule tab, in the Activity Sheet log, shows this option. You can set the scheduled send data based on the frequency. Before initial synchronization, Get Data is the only toolbar function available in the log. Select Get Data to initiate synchronization and create the Activity Sheet.
Refresh	To retrieve the latest number of activity sheets created in the log.
Print	To print the log contents into HTML, CSV, or Excel formats.
Find on Page	To search in the log.

If you do not have the **Create Manual Activity Sheets** permission, or the **Full Access** permission, the toolbar options in the **Activity Sheets** log will not display the **Create** option.

Activity Sheets Log (Columns)

The **Activity Sheets** log contains the following columns:

- **Refresh Data:** A Refresh icon  is displayed in this column if the activity calendar is edited in the following areas:

- Working and Non-working days
- Working hours
- Start time of working day

Use the **Refresh** toolbar option to update the sheet based on the new calendar values. The refresh is captured in the **History** tab of the sheet.

- **Name:** The name of the manual activity sheet.
- **Description:** The description for the manual activity sheet.
- **Source Type:** To show whether the source for the manual activity sheet is standard, project/shell, or custom.

Note

The **Source Type** for a **System Activity Sheet** is **P6** or **Oracle Primavera Cloud**.

- **Status:** To show whether the manual activity sheet is active.
- **Last Updated On**
- **Creation Date**
- **Created By**

Activity Sheets Log (System Activity Sheet Gear Menu)

To access the Activity Sheets log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheets** to access the Activity Sheets log.

The log lists the **System Activity Sheet** as well as the manual activity sheets.

The **System Activity Sheet** has a *gear menu* () which enables you to open (**Open**) the **System Activity Sheet**.

Activity Sheets Log (System Activity Sheet Properties Tabs)

In the **Activity Sheets** log, when you select the **System Activity Sheet**, the following properties tabs appear in the right pane:

- **Mapped Projects** tab
- **Schedule** tab

- **History** tab

The following describes the tabs listed above.

Mapped Projects tab

Toolbar options

- **Assign Rate Sheet**
To select **Planning** and **Actuals** specifications. You can select a rate sheet from the list and specify the project to which the rate sheet will be assigned (from the Project).
- **Recost**
To roll up the CBS costs (Cost Loaded), or to re-calculate all costs (Resource Loaded). It enables you to perform the cost calculations in an activity sheet, for type selected (that is, current schedule or baseline schedule).
- **Refresh**
To refresh the **Mapped Projects** tab log items.
- **Find on Page**
To find a particular project in the **Mapped Projects** tab log items.

Columns

- **Project ID**
- **Project Name**
- **Project Type**
- **Project Start Date**
- **Data Date**
- **Schedule Type**
- **ETC Techniques**
- **Rate Sheet (Planning)**
- **Rate Sheet (Actuals)**

Schedule tab

The **Schedule** tab enables you to:

- **Set Frequency for**
Set frequency for getting data or sending data (Set Frequency for).
- **Frequency**
Select the time frequency.
- **Start Date**
Set the start date.
- **End Date**
Set the end date.

History tab

The **History** tab enables you to see a history (the history of all events that have been performed across project sheets present in the activity sheet) of changes made on the system activity sheet.

Toolbar options

- **Refresh**
- **Find on Page**

Columns

- **Action**
- **Requestor**
- **Initiated On**
- **Start Date**
- **End Date**
- **Status**

When you select an item in the **History** tab, the **History Details** split screen appear at the bottom of the page which provides more details about the selected item.

Mapped Projects Tab (System Activity Sheet)

The **Mapped Projects** tab lists the P6 or Oracle Primavera Cloud projects drawn from the **Integration** tab of shell details into the **Activity Sheet**.

The **Mapped Projects** tab toolbar options are:

The toolbar options are:

- **Assign Rate Sheet:** See [Assign Rate Sheet](#).
- **Recost:** See [Recost](#).
- **Refresh**
- **Find on Page**

Use the toolbar options to assign a shell-level rate sheet to selected projects, recost resource loaded or cost loaded projects, refresh the page, and find an item displayed on the page respectively.

The **Mapped Projects** tab columns are:

- Project ID
- Project Name
- Project Type: The values are Current or Baseline
- Project Start Date
- Data Date: The date a project is updated in P6 or Oracle Primavera Cloud
- Schedule Type: The values are Duration, Resource, or Cost for projects integrated from P6. The value is always Resource for projects integrated from Oracle Primavera Cloud.
- ETC Technique: The formula used to calculate the Estimate to Complete. For example: $PF = 1/CPI$; $PF = 1$; $(1/CPI) * (BAC - EV)$; $0.75 * (BAC - EV)$

Note

When entering the percentage values in your sheet, if you are working in Classic View, enter the value by using decimal number format. For example, for ten percent, enter: 0.1, and if you are working in Standard View, enter the value by using percent format. For example, for ten percent, enter: 10%. The value that Unifier uses to validate the value of the Percentage column, when applicable, will be: 0-100.

- Rate Sheet (Planning): The **Master Rate Sheet** or a shell-level rate sheet used to calculate the costs.
- Rate Sheet (Actuals): The **Master Rate Sheet** or a shell-level rate sheet used to calculate the costs.

Assign Rate Sheet

When you select the **Assign Rate Sheet** sub-tab, the **Assign Rate Sheet** window opens which contains the following fields:

- **Planning**
- **Actuals**

You can use **Select**  to open the **Select Rate Sheet** window and select a sheet.

By default, the resource and role rates in the activity sheet are retrieved from the **Master Rate Sheet** and applied across all the projects. If you have created shell level rate sheets, you can assign a rate sheet to one or more projects.

1. Select one or more projects in the tab.
2. Select **Assign Rate Sheet** to open the **Assign Rate Sheet** window. The **Assign Rate Sheet** window has the following options:
 - **Planning**
If you are familiar with the rate sheets in the shell, you can select the drop-down arrow to select a rate sheet, or Master Rate Sheet, as the source. If you need more details about the rate sheets, click **Select** (next to the drop-down arrow) to open the Select Rate Sheet window and review the details of the available rate sheets before selecting.

Alternatively, you can enter the name of the rate sheet in this window that you want to use to calculate the respective cost.
 - **Actuals**
If you are familiar with the rate sheets in the shell, you can select the drop-down arrow to select a rate sheet, or Master Rate Sheet, as the source. If you need more details about the rate sheets, click **Select** (next to the drop-down arrow) to open the Select Rate Sheet window and review the details of the available rate sheets before selecting.

Alternatively, you can enter the name of the rate sheet in this window that you want to use to calculate the respective cost.
3. Select **Assign** (or select **Cancel** to exit without making any changes).

Note

An alert “No Rate Sheets to Assign” is displayed if no rate sheets exist. You can Assign Rate Sheet only to Resource-loaded projects in the Activity Sheet.

The role and resource rates are applied to the activities/assignments in the selected projects, when refreshed. You must perform **Recost** to apply rates from the new assigned rate sheets.

When a different rate sheet is assigned to a project, the system displays the following alert message: Perform Recost to see updated costs.

Recost

The **Recost** sub-tab enables you to perform the cost calculations in an activity sheet, for type selected (that is, current schedule or baseline schedule). Upon initiating this option, Unifier refreshes the rates for Price/Unit for each assignment, based on the rate source from the rate sheet assigned using the latest rates present. The field will be updated (or used) in recost according to the following rules:

- If the rate source is Resource, the system gets the corresponding data from the resource rate sheet.
- If the rate source is Role, the system gets the corresponding rate from the role rate sheet.
- If the rate source is Override, the system updates the Price/Unit and uses the Price/Unit for the respective assignment present in the Activity Sheet.

This functionality applies to Resource loaded projects. Recost for Cost-loaded Projects also takes care of applying the exchange rates for Cost fields if P6 Currency or Oracle Primavera Cloud Currency is different than Unifier Base Currency or Shell Currency. Use Recost to perform cost calculations in the Activity Sheet for the schedule type selected (current or baseline).

Note

Recosting cannot be performed on Duration-based projects.

The **Recost** action must be manually triggered by the user after the following actions are performed in the Activity Sheet or the Rate Sheet:

Assigning CBS

This option can be used to assign a CBS code to a resource or role, or both. Select Assign CBS and select a code in the CBS field.

Assigning Rate Source

Select **Assign Rate Source** to assign a rate source to an assignment.

The **Rate Source** drop-down list has the following options:

- Resource (default)
- Role
- Override

Assigning Price/Unit

Unifier updates the rates for price/unit of each assignment after retrieving them from the corresponding source fields in the rate sheets as follows:

- If the rate source is **Resource**, the data is fetched from the Resource Rate Sheet.
- If the rate source is **Role**, the data is fetched from the Role Rate Sheet.
- If the rate source is **Override**, the Price/Unit data is not refreshed.
- In this case, you must manually specify the value. To do so, select **Rate Source**, and follow the prompts. The **Assign Rate Source** is only applicable for Resource-loaded projects.

The system rolls up the assignment values to calculate values at the activity level.

Updating Data in actions button inside the activity sheet.

Changing Rates for any of the resources/roles in the Rate Sheet, in case the resources/roles are referred in **Assignments**.

By default, the **Master Rate Sheet** is used to perform costing; however, if a shell level rate sheet is assigned, values are derived from it instead.

When you activate recost, the following fields (within activities and assignments) are refreshed using the spread data and rates from the assigned rate sheet.

See the following topics for details:

- [Recost - Activity Attributes](#)
- [Recost - Assignment Attributes](#)

The values are taken from the baseline or the corresponding baseline values from the current schedule.

The *activity attributes* are re-calculated by using the spread data and rates from the assigned rate sheet.

The corresponding values at the activity level are calculated by rolling up the values from the assignments.

Note

For recosting, if price/unit and resource/role rates are not defined in the **Activity Sheet**, a default value of 0 is used, and a warning is displayed. If the values are defined, the project currency is used for the calculations. The rate is multiplied by the number of units to get the cost.

Unifier applies the following logic to recosting:

The calculations are triggered while doing the re-costing for Activity Sheet. After the application receives all the rates, it proceeds according to one of the following scenarios:

Scenario One

Resource Currency = Base Currency = Shell Currency

No changes are required.

Scenario Two

Resource Currency <> Base Currency = Shell Currency

The application calculates all the spread data (currency fields) that is present in the Activity Sheet (in the company currency [Base Currency]) by using the resource/role rates applicable at each spread Data Date field.

If the resource rate currency is different from the company currency [Base Currency], the exchange rate will be applied at each spread Data Date field to calculate the spread data.

The spread data will then be rolled up to the respective currency field.

These calculated values in the company currency [Base Currency] are used to calculate any dependent field (for example, CPI, SPI, and so on) as part of recosting.

Scenario Three

Resource Currency = Base Currency <> Shell Currency

Unifier calculates all the spread data (currency fields) that is present in the Activity Sheet (in the company currency [Base Currency]) by using the resource/role rates applicable at each spread Data Date field.

The spread data will then be rolled up to the respective currency field.

These calculated values in the company currency [Base Currency] are used to calculate any dependent field (for example, CPI, SPI, and so on) as part of recosting.

Note

Only Scenario Three is applied to the cost-loaded.

The values in the shell currency will be calculated by using the applicable exchange rate for that shell currency at each spread Data Date field for all currency fields. The system uses these values to calculate any dependent field (for example, CPI, SPI, and so on) as part of recosting.

Note

Despite being in the Activity Sheet user interface, you can only see the Activity Sheet data in the Shell currency.

Scenario Four

Resource Currency <> Base Currency <> Shell Currency

Apply the steps indicated in *Scenario Two* and then apply the steps indicated in Scenario Three.

Schedule Tab (System Activity Sheet)

The following fields are available in the **Schedule** tab:

Set Frequency for

Set the frequency of synchronizations to automatically get data from P6 or send data from Unifier at daily, weekly, monthly, or quarterly intervals (**Frequency**).

Start Date and End Date

Define the start and end dates for the scheduled syncs.

Note

The **Schedule** tab will be seen for the users who have full access permission to the **Activity Sheet** sub-node.

History Tab (System Activity Sheet) and (Manual Activity Sheet)

The **History** tab, for both the system and manual activity sheets, displays the history of all scheduled jobs that are performed across the projects included in the Activity Sheet. The toolbar has the **Refresh** and **Find on Page** options. The columns include:

- **Action**
Displays actions related to Get Data, Send Data, Recost, and Cost Roll up
- **Requestor**
- **Initiated On**
- **Start Date**
- **End Date**
- **Status**
Displays Failed, Running, or Completed

Creating a System Activity Sheet

The System Activity Sheet (P6 or Oracle Primavera Cloud) is used to calculate ETC or EV. The **Get Data** option is used for the System Activity Sheet.

You can create a **System Activity Sheet** using the following synchronizations:

- Get Activity data from P6
- Get Activity and Assignment data from P6 for EVM
- Get Activity data from Oracle Primavera Cloud using Oracle Integration
- Send Oracle Primavera Cloud Activity data to Unifier

Note

For an activity sheet, the blocks and fields on the right pane can differ based on the synchronizations.

You have the option to view activities present in a P6 or Oracle Primavera Cloud project mapped to Unifier Shell, in the **Activity Sheets** log, by selecting the corresponding Project ID in the **Project** drop-down present inside the **Activity Sheet** log, when you open the system activity sheet from the **Activity Sheets** log.

The **Project** drop-down will contain the list of all P6 or Oracle Primavera Cloud projects mapped to the shell and selecting a project from this drop-down will load the respective scheduling data (activities) in the **Activity Sheets** log.

A project in P6 or Oracle Primavera Cloud can be a current schedule project or a baseline schedule project. Over the project life span, a user can create multiple baseline projects which are mapped to a current schedule project.

While sending data from P6 or Oracle Primavera Cloud, a baseline project sheet is created for the Project baseline (and not for Primary baseline, Secondary baseline, Tertiary baseline, and so on). As a result, every project from P6 or Oracle Primavera Cloud will have a baseline project sheet and current schedule project sheet (which will have the scheduling information, that is activities, assignments, and so on).

If a P6 or Oracle Primavera Cloud project has only current schedule, the system treats the planned data in current schedule as the baseline.

The project sheets, which are created by way of integration, are grouped under a single activity sheet that can be selected to perform Earned Value (EV) analysis.

The fields related to costing can be updated in Unifier and re-costed for a resource loaded schedule.

You can assign a rate sheet to a resource-loaded project present in the **Activity Sheet** log, when you open the system activity sheet from the **Activity Sheets** log. However, if you want to perform an operation at the project sheet level, you can open the activity sheet, and select the project and schedule type while working on the activity sheet.

To create a System Activity Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.
3. From the toolbar of the **Activity Sheets** log, select **Get Data into Activity Sheet** .
4. In the **Get Data** dialog box, choose one of the following options:
 - Select the **All Projects** checkbox, and populate the field with all available projects. You can use the **x** next to a project name to remove it from the field.
 - Select the field to see the list of projects, and then select the project that you need.
5. Select the project **Type**, **Baseline** or **Current** (or both).
You may have to scroll down, if you select all projects.
6. To apply your selection and close the window, select **OK**.

When the **Activity Sheets** log opens, you will see the following additional option on the toolbar:

Send Data from Activity Sheet: Use this option to send activity sheet data to the projects in P6. This triggers the synchronizations at the Gateway level.

 Note

- To avoid discrepancy of dates and time between applications, the P6/Oracle Primavera Cloud and Unifier servers are usually located in the same time zone.
- The **Send Data from Activity Sheet** option is not currently supported with Oracle Primavera Cloud through Oracle Integration.

If your administrator defined views for the System Activity Sheet and pushed them to your project/shell, these views are listed in the **Manage Views** dialog box of your System Activity Sheet. You can make these views visible in your System Activity Sheet, and you can change the order in which they are listed. After they are visible, you can use them to create additional custom views. You cannot edit or delete the predefined views. If the administrator pushes additional updates to the template, custom views that you created are deleted. For more information on creating and managing views for the System Activity Sheet, see *Creating and Managing Views in Activity Sheets* and the *System Activity Sheet*.

To learn how to create a Manual Activity Sheet, see *Creating a Manual Activity Sheet*.

System Activity Sheet Log Default

The **Activity Sheets** log captures project scheduling data coming from P6 or Oracle Primavera Cloud. A single **System Activity Sheet**, in Unifier, will be mapped to multiple project schedule sheets, which were previously created by way of integration.

When you open the **System Activity Sheet** that is created by way of integration with P6 or Oracle Primavera Cloud, it lists all the activities in the **Activity Sheet** log. The log lists all activities in a flat grid.

To access the System Activity Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheets** to access the Activity Sheets log.
3. In the log, select the **System Activity Sheet**, select the *gear menu* () , and then select **Open**.

The log (named **Activity Sheet** in the image shown below) enables you to set up the log to show either the baseline project view, or the current project view (from the upper-right corner of the log). The link to view the baseline project is displayed next to the source project (upper-right), where you can select the link to view the baseline data for the selected source project. If there are no baselines received for the selected source project, this link is not displayed.

The log has the following toolbar options:

- **Actions**
- **View**
The **Default** view shown in the image, below. You can use the **View** toolbar option to:
 - **Create New View**
 - **Manage Views**
- **Edit View**
- **Refresh**
- **Print**
- **Find on Page**
- **Menu Options**
Use this toolbar option to export activities or assignments, import CBS code for activities or assignments, or color the rows.
- **Gantt**

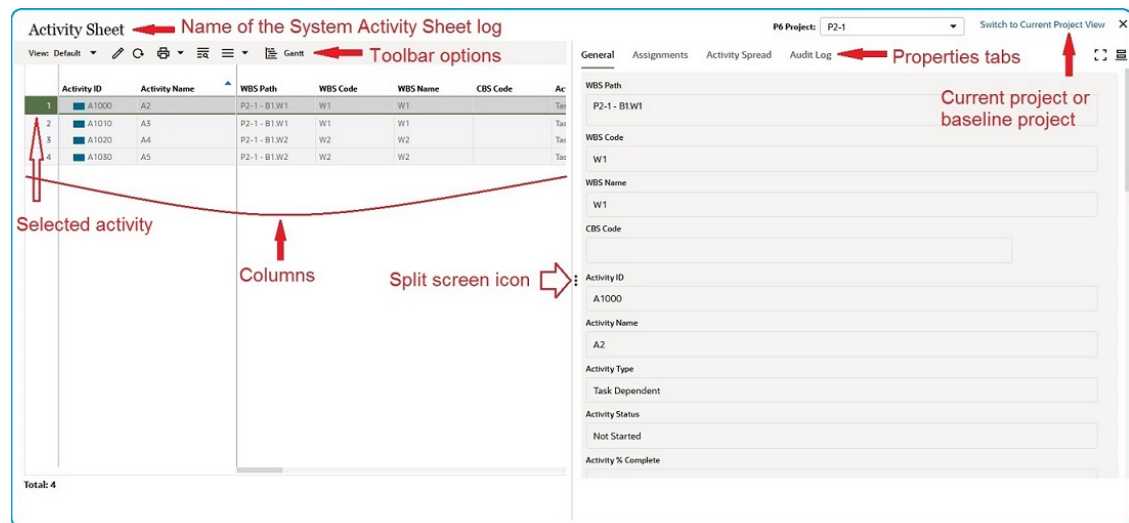
The log has the following fixed columns:

- **Sequence No.**
- **Activity ID**
- **Activity Name**

All the other columns seen in the grid are in the same order as showing the Activity Attribute Form. The column labels are derived from the Activity Attribute Form.

When you select an activity in the log, the following properties tabs will display:

- **General**
- **Assignments**
- **Activity Spread**
- **Audit Log**



The following topics explain the elements of the log.

System Activity Sheet Log Toolbar options

There are two sets of toolbar options based on the following project schedule types:

- Current project view
- Baseline project view

The following explains the toolbar options for each project schedule type.

Current Project View

The current project view of the log has the following toolbar options:

- **Actions**
This option is only available in the current project view log.
 - **Apply CBS Code to All Assignments**
Using this option enables you to apply the **CBS Code** assignments to all the resources associated to the highlighted activities. You can also use the *gear menu* (⚙️) **Apply CBS Code to all Assignments** option to highlight multiple activities and apply the same CBS Code to the assigned resources.

- **View**
Within the System Activity Sheet, the default name of the view is **Default**.
 - **Default**
The default view is not editable.

You can create new views based on the default view, when editing the view settings. This is similar to the default view available in **WBS Sheet**.
 - **Create New View**
Use this option to create a custom view. Custom views appear in the **View** list.
 - **Manage Views**
Use this option to reorder, show or hide views, and delete custom views.

Note

Any existing views that were created prior to the 20.10 upgrade will not be seen in the **View** drop-down field.

- **Edit View**
Enables you to select which columns to be displayed or remain hidden, apply filters, group and sort by available fields, and save custom views.
 - In the **Columns** tab, add/remove/reorder columns in the default view. You can save as a custom view.
 - In the **Filter** tab, add conditions to filter the results of a column.
 - In the **Group By** tab, create or modify groups using column elements. For example, activity status.
 - In the **Sort By** tab, define the sorting order (Ascending or Descending) of columns.
- **Refresh**
To update the information displayed on the screen.
- **Print**
 - **Export To CSV**
 - **Export To Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Find on Page**
To find items on the displayed page. When you select this option, the system inserts a row that lets you enter filter parameters.

- **Menu Options**

All the actions related to the export of the activities and the assignments, and the import of the **CBS Code** assignments to the activities and the assignments, can be done by way of the **Menu Options** (), on the right side of the window.

 - **Export**
 - * **CSV Template for Activities**
 - * **CSV Template for Assignments**
 - * **All Activities**
 - * **All Assignments**
 - * **Audit Log**
 - **Import**
 - * **CBS Code for Activities**
 - * **CBS Code for Assignments**
 - **Row Coloring**
 - * **Multi-Color**
 - * **Single-Color**

Baseline Project View

The baseline project view of the log has the following toolbar options:

- **View**

Within the System Activity Sheet, the default name of the view is **Default**.

 - **Default**

The default view is not editable.

You can create new views based on the default view, when editing the view settings. This is similar to the default view available in **WBS Sheet**.
 - **Create New View**
 - **Manage Views**

Note

Any existing views that were created prior to the 20.10 upgrade will not be seen in the **View** drop-down field.

- **Edit View**
- **Refresh**
- **Print**
 - **Export To CSV**
 - **Export To Excel**

Note

- * For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- * If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

- **Find on Page**

- **Menu Options**

All the actions related to the export of the activities and the assignments, and the import of the **CBS Code** assignments to the activities and the assignments, can be done by way of the **Menu Options** (≡), on the right side of the window.

- **Export**

- * **CSV Template for Activities**
- * **CSV Template for Assignments**
- * **All Activities**
- * **All Assignments**
- * **Audit Log**

- **Import**

- * **CBS Code for Activities**
- * **CBS Code for Assignments**

- **Row Coloring**

- * **Multi-Color**
- * **Single-Color**

System Activity Sheet Log Columns

The following explains the columns in the Activity Sheet log (System Activity Sheet).

- **Sequence No.**

This is a read-only column, with a sequential number starting from 1 (one).

The numbering sequence of activities. The column cells are pre-populated with the sequence number provided in the activity sheet properties. The sequence number is a unique value.

This column displays the row number and errors, if any.

To select an activity, select inside the corresponding Sequence No. cell.

- **Activity ID**

Note

The task icon should be populated in this column for a particular Activity ID. The color of the task icon is blue for 'Not Started' activities. Similarly, the color of task icon will be orange for 'In Progress' activities, and green for 'Completed' activities.

- **Activity Name**
- **WBS Path**
- **WBS Code**
- **WBS Name**
- **CBS Code**

The **CBS Code** column is an editable column, for all the activities, and the picker is displayed when you double-click the **CBS Code** column cell.

You can assign the CBS codes to the activities by selecting the picker, or by using the type-ahead functionality. You can assign a single CBS code to multiple rows by dragging.

The CBS code initially assigned to an activity automatically assigns the same CBS code to all its resources. Unifier does not push to the resources any subsequent updates of the CBS code, at the activity level.

You can assign the same CBS code to multiple activities by selecting multiple consecutive cells, in the **CBS Code** column, and adding a CBS code. Similarly, you can remove a CBS code assignment by selecting the **Clear** option in the picker column.

- **Activity Type**
- **Activity Status**
- **Activity % Complete**
- **Planned Start**
- **Planned Finish**
- **Planned Duration**
- **Currency amount**
- **Planned Total Cost**
- **Actual Start**
- **Actual Finish**
- **Actual Duration**
- **Actual Total Cost**
- **Remaining Early Start**
- **Remaining Early Finish**
- **Remaining Duration**
- **Remaining Total Cost**
- **Start**
- **Finish**
- **At Completion Duration**
- **At Completion Total Cost**

- **Secondary Constraint**

The **Activity Sheet** overlay page has columns that provide more details such as:

- **Activity ID**
- **Activity Name**
- **Activity % Complete**
- **Activity Status**
- **Activity Type**

The following provides details about the columns:

Control Accounts (Editable)

This is a Unifier specific field and is editable in the tab. This can also be updated using import CSV. The accepted values are Yes/No.

Activity ID

This is a unique identifier of the activity. To identify and track activities, P6 or Oracle Primavera Cloud assigns each activity a unique Activity ID that is the result of joining the Activity ID Prefix with the Activity ID Suffix and then adding an Increment value. For example, a prefix of PROJ-A# combined with a suffix of 2500 and an Increment of 5 will yield the following activity IDs: PROJ-A#2500, PROJ-A#2505, and so on.

Type

Determines how duration and schedule dates are calculated for an activity.

Task Dependent:

Activities are scheduled using the activity's calendar rather than the calendars of the assigned resources. Choose task dependent when you want to control the duration of the activity yourself (that is, no resources are assigned), or when one or more resources assigned to the same activity can work according to the same calendar.

For example, you might have an activity to cure concrete; you know how long the task takes and the addition of resources will not complete the task any earlier. You would designate this activity as task dependent.

Resource Dependent:

Activities are scheduled using the calendars of the assigned resources. This type is used when several resources are assigned to the activity, but they might work separately. Choose resource dependent when you want to schedule each resource according to his/her own time schedule, or resource calendar, not the activity calendar. The assigned resource availability determines the start and finish dates of the activity. Typically, you use this type when multiple resources assigned to the same activity can work independently, or when availability can affect the activity's duration.

For example, an activity that requires an Inspector might be delayed if that resource is assigned to multiple projects or is on vacation.

Level of Effort:

Activities have a duration that is determined by its dependent activities and are typically administration type. Choose level of effort to indicate that the activity's duration depends on its predecessor or successor activities. A level of effort activity is usually one that is ongoing, such as clerical work, Change Management, or project management tasks. For example, site

cleanup could be considered a level of effort activity; it occurs repeatedly and is dependent on the completion of a phase.

Start or Finish Milestone:

Milestone activities are zero-duration without resources, marking a significant project event. Choose start milestone or finish milestone to indicate that the activity marks the beginning or end of a major stage in the project. Milestones have zero duration. A primary resource or an activity owner, and expenses can be assigned to a milestone. In an office building addition project, examples of milestones might include Project Definition Complete, Structure Complete, or End Bidding Process.

CBS Summary:

Activities that are used to aggregate date, duration, and percent complete values for a group of activities that share a common WBS code level. Choose WBS Summary to indicate that the activity is a summary-level WBS activity. A WBS Summary activity represents a group of activities that share a common WBS level. The summary-level WBS activity enables roll-ups of dates for the activity group. The duration of a WBS Summary activity extends from the start of the earliest activity in a group to the finish of the latest activity. WBS codes control which activities are part of a WBS Summary activity; P6 or Oracle Primavera Cloud incorporates any activities that share a component of the WBS Summary activity's WBS code into the WBS Summary activity. For example, all activities whose WBS codes begin with A (A.1, A.1.1, A.1.2, and so on) can be part of one WBS Summary activity whose WBS code is A. At a lower level, all activities whose WBS codes start with A.1 (A.1.1, A.1.2, and so on) can be part of a WBS Summary activity whose WBS code is A.1.

CBS Code (Editable)

The CBS code to which you want to link an activity, assignment, or expense. This is an editable field and can also be updated using import CSV.

Performance % Complete

The percentage of the activity, or project, planned work that is currently complete. The Performance % Complete is used to calculate earned value (EV). It can be based on the activity percent complete, on the 0/100 rule, on the 50/50 rule, depending on the technique for computing earned-value percent complete for the activity's CBS.

Actual Start

If work has started, the date work on the activity, CBS, project, or EPS began. If resources (labor, non-labor, or material) or roles are assigned to the activity, the actual start date is the earliest among all the resource or role assignments. For a CBS, project, or EPS, the actual start date is the earliest actual start date among all activities within the CBS, project, or EPS. When P6 or Oracle Primavera Cloud is integrated with Unifier, the Actual Start date might have been imported from Unifier rather than calculated by P6 or Oracle Primavera Cloud.

Actual Finish

The date on which the item, such as an activity, assignment, or project, is complete. When P6 or Oracle Primavera Cloud is integrated with Unifier, the Actual Finish date might have been imported from Unifier rather than calculated by P6 or Oracle Primavera Cloud.

Planned Duration

The expected amount of time required to complete an activity. The planned working time is calculated in P6 or Oracle Primavera Cloud using the activity's calendar. The duration is measured from the activity's planned start date to its planned finish date.

Actual Duration

The total working time from the activity Actual Start date to the Actual Finish date for completed activities, or the total working time from the Actual Start date to the data date for in-progress activities. The actual working time is computed using the activity's calendar.

Remaining Duration

The total working time from the activity remaining start date to the remaining finish date. The remaining working time is calculated using the activity calendar. Before the activity is started, the remaining duration is the same as the planned duration. After the activity is completed the remaining duration is zero.

At Completion Duration

The total working time from the activity's current start date to the current finish date. The current start date is the planned start date until the activity is started, and then it is the actual start date. The current finish date is the activity planned finish date while the activity is not started, the remaining finish date while the activity is in progress, and the actual finish date after the activity is completed. The total working time is calculated using the activity's calendar.

Activity Attributes (Units)**Planned Total Units**

The planned units of work for the activity.

Actual Total Units

The exact number of units that have been expended on the selected activity.

Remaining Total Units

The remaining units of work to be performed by the resource on the activity. Calculated as Planned Units minus Actual Units.

At Completion Total Units

The sum of the actual units and remaining units for the resource assignment on the activity. Calculated as Actual Units plus Remaining Units.

Activity Attributes (Cost)**Planned Total Cost**

The expected total cost of the activity, consolidating costs of all assignments.

Actual Total Cost

The actual non-overtime plus overtime cost for all the resource assignments of the activity.

Remaining Total Cost

The remaining cost of all the resource assignments for the activity.

At Completion Total Cost

The sum of the actual costs plus remaining costs for the resource assignment on the activity. Calculated as Actual Costs plus Remaining Costs.

Activity Attributes (Earned Value)**Planned Value**

The portion of the baseline total cost of the activity or project that is scheduled to be completed as of the project data date.

Earned Value

The portion of the project baseline total cost of an activity or all activities in the project that are actually completed as of the project data date. Budget at completion is calculated from the project baseline. Calculated as Budget At Completion multiplied by Performance Percent Complete. The method for computing performance percent complete depends on the Earned Value technique selected for the activity CS.

Estimate to Complete

The estimated cost to complete the activity, CBS, or project. Calculated as Remaining Total Cost for the activity or the Performance Factor multiplied by (Budget At Completion minus Earned Value), depending on the Earned Value technique selected for the activity CBS (calculated from the primary baseline). Budget at completion is calculated from the project baseline.

Schedule Performance Index

A measure of the work accomplished as a percentage of the work scheduled. Schedule Performance Index indicates whether you are meeting earned and planned values within your schedule. A value less than 1 indicates that less work was performed than was scheduled. Calculated as Earned Value divided by Planned Value.

Cost Performance Index

A measure of the value of work accomplished as a percentage of the actual costs. Cost Performance Index (CPI) indicates whether you have spent money over the budget to date. On the My Preferences page, you can set performance thresholds for CPI calculated values to determine whether you need to take corrective action. Calculated as Earned Value Cost divided by Actual Cost. A value less than 1 indicates that the actual cost has exceeded the planned value.

Cost Schedule Index

Product of Schedule Performance Index & Cost Schedule Index

Schedule Variance

The measure of schedule performance on a project. A negative value indicates that less work was actually performed than was scheduled. Calculated as Earned Value minus Planned Value.

Cost Variance

A measure of cost performance on an activity, CBS, or project. A negative value indicates that the actual cost has exceeded the planned value. Calculated as Earned Value minus Actual Cost.

Complete Performance Index

The ratio of the remaining work to the remaining funds. Calculated as (Budget at Completion minus Earned Value) divided by (Estimate at Completion minus Actual Units or Cost).

Estimate at Completion

The expected total cost of a schedule activity, a work breakdown structure component, or the project when the defined scope of work will be completed. Calculated as Actual Cost plus Estimate to Complete Cost. The method for calculating estimate to complete depends on the earned value technique selected for the activity CBS.

Budget at Completion

The planned total cost through activity or project completion. Calculated as Planned Labor Cost plus Planned Nonlabor Cost plus Planned Expense Cost plus Planned Material Cost.

Variance at Completion

The difference between the baseline total cost and the current estimate of total cost. A negative value indicates an estimated cost overrun. Budget At Completion is calculated from the current baseline. Calculated as Budget At Completion minus Estimate At Completion.

System Activity Sheet Log Gear Menu Options

In the log, select an activity, and then select the *gear menu* () to access the following options:

- **Apply CBS Code to All Assignments**
To assign the **CBS Code** to all the resources under that activity. After the **CBS Code** is updated at the activity level, you can assign same **CBS Code** to all the resource assignments of the activity by right-clicking the activity and selecting the option **Apply CBS Code to all Assignments**. This selection causes all the assigned resources **CBS Code** to be updated.

After you assign or update the **CBS Code**, both at the activity level and the assignment level, the system updates the contents of the **Audit Log** tab.

You can select multiple activities and update the **CBS Code** to the resources of the selected activities by right-clicking and selecting the option **Assign CBS Code to All Assignments**.

Use the **Assign CBS Code to All Assignments** to apply the **CBS Code** value to the resource assignments. When you select the **Assign CBS Code to All Assignments**, the CBS codes for the selected activities will be added to resource assignments.
- **View Activity Spread**
To go to the Activity Spread tab (right pane), select the *gear menu*, and select **View Activity Spread** to open the **Activity Spread** tab. You can select your options from the following fields to display the results on the **Activity Spread** window:
 - **Frequency**
 - **Cost Type**

Note

When you assign resources or roles that have multiple rates to an activity sheet, to update the total cost (Total Cost value), you must reschedule, or recost, the activity sheet; otherwise, the system will assign earliest assigned resources or roles rates (price/unit) to the activity sheet, and you will not be able to view the correct accumulated cost.

System Activity Sheet Log Properties Tabs

In the log, you can view the activity details by selecting a row and selecting the split screen icon to open the right panel and see the details of the activity in the following tabs:

- **General** tab

- **Assignments** tab
- **Activity Spread** tab
- **Audit Log** tab

These tabs are explained in the following topics.

General Tab

Contains all the details related to the activity sheet, which are defined in Activity Attribute Form including the **WBS Details**. The data elements and the order of the data elements, shown in the **General** tab, are based on the Activity Attribute Form. The hidden data elements are not shown in the **General** tab. You can dock this pane to the right side of the screen. If you dock the pane at bottom, or right side, manually, the system retains your choice after closing the **Activity Sheet** window. You can expand the bottom pane by using the Expand  icon on the right side.

The **General** tab displays the attributes for the selected activity in groups:

- WBS Attributes
- Activity Attributes (General)
- Activity Attributes (Schedule)
- Activity Attributes (Units)
- Activity Attributes (Cost)
- Activity Attributes (Earned Value)

Actual Dates

- An activity progress <uuu_P6PercentComplete> will be editable after the <uuu_P6ActualStart> has been entered, or the <uuu_P6ActivityStatus> has changed to 'In Progress'. If <uuu_P6ActualStart> has been entered, the uuu_P6ActivityStatus will be changed from 'Not Started' to 'In Progress' and conversely, automatically.
- When <uuu_P6ActivityStatus> has changed from 'In Progress' to 'Completed' the <uuu_P6ActualFinish> will be populated with current date and conversely.
- When <uuu_P6ActivityStatus> has changed from 'Not Started' to 'Completed' the <uuu_P6ActualStart> and <uuu_P6ActualFinish> will be populated with current date.
- Actual Start Date <uuu_P6ActualStart> cannot be entered in future date (cannot be different from the current date).
- Actual Finish Date <uuu_P6ActualFinish> cannot be entered in future date (cannot be different from the current date).

Assignments Tab

Use this tab to view the resources and roles assigned to the activity selected in the main grid.

The *gear menu* () options in the **Assignments** tab vary depending on the project type.

There is only one option for *Cost-loaded* and *Schedule-based projects*:

- **View Assignment Spread**

The following options are available for the *Resource-loaded projects*:

- **View Assignment Spread**
- **Assign CBS**
- **Assign Rate Source**

Select a resource row, select *gear menu* for that row, and select **View Assignment Spread**. This option (for any selected resource) displays the spread data for that resource, in a split screen "Assignment Spread of ..." at the bottom, as shown.

The screenshot shows the Oracle Activity Manager interface. On the left is a Gantt chart. The main area is divided into two panes. The top pane, titled 'P6 Project: P2-1', shows a table of resources with columns: Resource Name, Role Name, Rate Source, Cost Code, Planned Units, Actual Units, and Remaining Units. The bottom pane, titled 'Assignment Spread of Resource 1', shows a table with columns: Period Start, Cost & Rate Type, Planned Units, Actual Units, Remaining Units, At Completion Units, Planned Cost, and Actual Cost. The table shows data for two periods: 05/01/2021 and 02/01/2021. The 'Frequency' dropdown is set to 'Month' and the 'Cost & Rate Type' dropdown is set to 'Cost'.

Resource Name	Role Name	Rate Source	Cost Code	Planned Units	Actual Units	Remaining Units
Resource 1		Resource	0002	143	0	143

Period Start	Cost & Rate Type	Planned Units	Actual Units	Remaining Units	At Completion Units	Planned Cost	Actual Cost
05/01/2021	All	111	0	111	111	\$2,775.00	
02/01/2021	All	32	0	32	32	\$800.00	

Total: 2

You can view the daily spread data of the resource. The **Frequency** drop-down field and the **Cost & Rate Type** field will show additional options to select.

- In the **Frequency** list, change the granularity level of the spread to Week, Month, or Year.
- In the **Cost & Rate Type** list, select Cost or Units. Column headings change accordingly.

The "Assignment Spread of ..." pane also displays spread details, such as **Period Start**, **Panned Units**, and so forth in columns.

All the resources associated with the activity are displayed. Both the **CBS Code** and the **Rate Source** columns are editable. By default, the picker icon is not displayed until you select the cell of the columns.

- **Resource Name**
- **Role Name**
- **Rate Source**

You can double-click in the **Resource Source** cell and select one of the following rate sources:

- **Resource**
In the case of the resource.
- **Role**
For the roles.
- **Override**

You can edit the price or unit for planning and actuals if the value for the Rate Source is selected as: **Override**.

- **Cost Code**
You can edit the value of the **CBS Code** field for a particular resource and assign the same **CBS Code** field value to other resources by dragging the CBS Code to multiple rows.
- **Planned Units**
- **Actual Units**
- **Remaining Units**
- **At Completion Units**
- **Price/Unit (Planning)**
- **Price/Unit (Actuals)**
- **Planned Cost**
- **Actual Cost**
- **Remaining Cost**
- **At Completion Cost**

The **Cancel** and **Save** options appear when you attempt to edit the **Rate Source** value, or the **CBS Code**, or other fields based on the **Rate Source** in the **Assignments** tab. If you try to navigate to an activity sheet without saving the tab information, the system notifies you.

Activity Spread Tab

Enables you to select the values for:

- **Frequency**
The Frequency drop-down field enables you to select the frequency of the spread in:
 - **Day**
 - **Week**
 - **Month**
 - **Year**
- **Cost & Rate Type**
Enables you to select:
 - **All Cost Types |Direct**
 - **All Cost Types |Indirect**
 - **Standard |All Rate Types**

You can view the activity spread data by using the *gear menu* () option (**View Activity Spread**) or by navigating to the **Activity Spread** tab.

In **Activity Spread** tab, you can see the spread data of the selected activity.

The **Activity Spread** tab will show all the data (both for costs and for units) in one spread sheet. The costs and units spread data appears on one single sheet. You can expand the screen to view more spread data. The order of the columns in the **Activity Spread** tab are as follows:

- **Period Start**

- **Cost & Rate Type**
- **Planned Total Units**
- **Actual Total Units**
- **Remaining Total Units**
- **At Completion Total Units**
- **Planned Total Cost**
- **Actual Total Cost**
- **Remaining Total Cost**
- **At Completion Total Cost**

You can view the spread data for each activity by navigating to different activities under the spread column.

Note

Only one activity spread data is displayed. If you select multiple activity rows, the system displays: "**Details of multiple activities cannot be viewed.**"

Audit Log Tab

The following information will be captured in the Audit Log tab:

- **Date**
- **Event**
- **Action**
- **Field Name**
- **Old Value**
- **New Value**
- **User Name**
- **Proxy User**

CSV Import and Audit Log

For the existing activities, the Audit Log tab displays the entries for the fields that have been updated by way of CSV import as follows:

- **Date**
Populated with date and time for the event.
- **Event**
The value is "Import," in the case of adding or updating the activity.
- **Action**
For the new activities, the value is populated with, "Create." For the existing activities, the value is populated with, "Update."
- **Field Name**
Populated with the field that was updated.

- **Old Value**
Populated with the existing value in case of an update.
- **New Value**
Populated with the new value.

Note

If a new activity is created by way of the CSV import, the Audit Log provides an entry.

Activity Sheet User Defined Report (UDR)

You can create User-Defined Reports (UDRs) from the data present in your activity sheet.

The **Create User-defined Report** window lets you define the following fields for your UDR (template or individual reports):

- **Data Type**
- **Element**
- **Report Type**
 - **Tabular**
 - **Cross Tab**
 - **Summary**
 - **Alert**
- **Access Type**

Note

The same fields will be available for system and permission-based data sources.

The elements (Currency/Decimal) in the OOTB Activity Sheet, along with any user-defined column, will be available as DEs for your report.

Note

Only the data elements available in the Activity Sheet will be available in the respective UDR.

Data for reports can be imported to Unifier from the CSV file. You can import data for Date Field, only (if it is in the same format as in the Unifier client). In cases where the client is using mm/dd/yyyy, you have to create custom settings in the CSV file.

In Excel, add the new custom formats as follows:

1. Right-click the applicable cell, and select **Format Cells**.
2. On the **Number** tab, select the **Custom** category, and specify a **mm/dd/yyyy** format.

Roll Up Activity Sheet to Cost Sheet

The **Column Properties** window enables you to select your cost sheets.

The **Type** field enables you to select the following:

- Worksheet
- Activity Sheet

The **Name/ID** field displays the name of the worksheet that you have selected; otherwise, this field displays the Activity Sheet, using the following naming conventions:

- Activity Sheet 01 (Activity) - for Activity Sheet with ID 01
- Activity Sheet 01 (Resource)

If there is no data or sheet for that ID, Unifier displays an error message when you select **OK**, after making the selection, and the value will be zero in the Cost Sheet for that column.

The **Column** field enables you to select the currency and decimal fields from the Activity Sheet that are available to be rolled up into the Cost Sheet as a column.

Assignments

- uuu_P6PlannedCost (Planned Cost - cost)
- uuu_P6ActualCost (Actual Cost - cost)
- uuu_P6AtCompletionCost (At Completion Cost - cost)
- uuu_P6RemainingCost (Remaining Cost - cost)
- uuu_P6PlannedUnits (Planned Units- Units)
- uuu_P6ActualUnits (Actual Units- Units)
- uuu_P6AtCompletionUnit (At Completion Units- Units)
- uuu_P6RemainingUnits (Remaining Units- Units)

Activity

- uuu_P6PlannedTotalCost (Planned Total Cost - cost)
- uuu_P6ActualTotalCost (Actual Total Cost - cost)
- uuu_P6AtCompletionTotalCost (At Completion Total Cost - cost)
- uuu_P6RemainingTotalCost (Remaining Total Cost - cost)
- uuu_P6PlannedTotalUnits (Planned Units - units)
- uuu_P6ActualTotalUnits (Actual Units - units)
- uuu_P6AtCompletionTotalUnits (At Completion Units - units)
- uuu_P6RemainingTotalUnits (Remaining Units - units)

Note

The decimal type Data Element (DE) is available in the cost formula.

The **Column Name** field, in the **Cell Details** window, displays the DE field label in the respective Activity Sheet.

Note

You can have from 1 to 100 predefined cost DEs created in the Cost Sheet.

Roll Up of Earned Value Analysis Sheet Columns to Cost Sheet

You can roll up the EV analysis sheet columns (created on a manual activity sheet) to the cost sheet, similar to the EV analysis sheets that were created through the System Activity Sheet. All the existing options for an EV analysis sheet column in the cost sheet (columns, data format, and so on) will be available for EV analysis sheet that was created using a manual activity sheet. The EV analysis sheet column for a manual activity sheet is identified by using the Template ID, similar to the System Activity Sheet.

Roll Up of Earned Value Analysis Sheet Columns to WBS Sheet

You can roll up the EV analysis sheet columns (created on a manual activity sheet) to the WBS sheet, similar to the EV analysis sheets that were created through the System Activity Sheet. All the existing options for an EV analysis sheet column in the WBS sheet (columns, data format, and so on) will be available for EV analysis sheet that was created using a manual activity sheet. The EV analysis sheet column for a manual activity sheet is identified by using the template ID, similar to the System Activity Sheet.

Supported Objects for P6 XML Import (System Activity Sheet)

The following table lists the supported objects when you are importing a P6 XML file to create a project schedule.

The activity sheet selected will have the project schedule start date updated from the source, if there are activities with the start date earlier than the project schedule start date. In this case, the earliest start date will be the project schedule start date. If the project schedule start date is set to begin from the project start date defined in shell attributes, in the case of activities earlier than schedule start date, Unifier displays an error message.

Business Objects	Description	Unifier
Project Information (Project)	This is the highest level of information related to the project schedule.	With the import of P6 XML, the following project properties will be added to the activity sheet properties: Project Schedule Start Date, Calendar (if exists in Unifier; otherwise, the default project/shell calendar will be used), and Data Date.
Activity (Elements under Activity)	This is the parent node to all child business objects connected to any activity.	The import process will map non-complex type child elements from the Activity to Unifier Activity data elements.

Business Objects	Description	Unifier
Relationship (Elements under Relationship)	The <Relationship> element exists directly under the project. It stores predecessor and successor relationships between activities. It also supports relationships between activities from different projects.	The import process will only look at predecessor and successor relationships between activities in the same project.
WBS (Elements under WBS)	The WBS element wraps one or more activities. WBS elements can itself contain other WBS elements.	The import process will map all WBS Summaries from source to Unifier WBS data elements in WBS Sheet.
Assignment (Elements under Assignment)	The <Assignment> element is a child of <Activity>.	The import process will import all assignments for each task. Assignment properties will be imported based upon data mapping.
Resources/Roles (Elements under Resource/Role tags)	The resources assigned to the activities under assignments tab.	The import process will map all resources/roles from source to Unifier resources/role in Master Rate Sheet. If not available then new resources will be created.

Rate Sheet Node

There are two types of rate sheets:

- **Master Rate Sheet** (company level)
- Rate Sheet (shell level)

Note

No calculations are needed for a cost loaded schedule. The Earned Value Analysis module directly uses the data imported from P6.

A **Rate Sheet** is a subset of the **Master Rate Sheet** in a shell. You can create one or more rate sheets to assign rates to all or selected projects in the Activity Sheet of a shell. The rate sheets retrieve the resources and roles from the activity sheet of that shell and attain the corresponding rates from the **Master Rate Sheet**.

Note

By default, the rates present in the **Master Rate Sheet** are used across all the resources and roles present in the activity sheets across all shells unless you assign a shell-level rate sheet to the **Activity Sheet** in that shell.

A rate sheet provides the rates for the roles and resources assigned to activities of resource loaded schedules. This is required to perform costing and subsequent earned value analysis in Unifier. You can have multiple rate sheets. These rate sheets are listed in the **Rate Sheets** node log.

The **Rate Sheet** (at Project/Shell) log does not show any record at the shell level. The first time that you use the **Rate Sheet**, you have to create a subset of the **Master Rate Sheet** by

selecting the **Create** option. The **Create** option can be used subsequently to create a rate sheet directly from **Master Rate Sheet**.

You can define the rate breakdowns manually by using a formula to establish rates based on other cost types. When you edit the cell Price/Unit, you can select the formula icon to open the formula window. When you select the formula, Unifier displays the formula builder. The left pane displays the rate breakdowns defined for the rate that you have selected. You can select more than one breakdown and add a formula.

The **Rate Sheet** node log contains a list of rate sheets listed in the **Rate Sheets** log.

You have the following options for a rate sheet at shell level (in the **Rate Sheet**):

- **Create**
If you select **Create**, the system creates a rate sheet, with the required activity sheet as the list of *roles* and *resources*, and gets the corresponding rates from the **Master Rate Sheet**, automatically.
- **Copy**
You can select a rate sheet from the log at shell level (**Rate Sheet**) and select **Copy**. In this scenario, the system does not check the *roles* and *resources* list in activity sheet and just creates a copy of the rate sheet selected with user entered name through a window.

 Note

To view **Rate Sheet**, you must have appropriate permissions.

There are some minor differences in the log layout for rate sheet between **Master Rate Sheet** (at **Company Workspace**) and **Rate Sheet** (at Project/Shell).

Rate Sheets Node Log

To access the **Rate Sheets** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Rate Sheet**.

 Note

The location may differ in your implementation based on the Project/Shell **User Mode Navigator** configuration.

You can use the **Rate Sheets** log to:

- See a list of rate sheets.
- Review the following information (on the right pane of the log) about a selected activity sheet:
 - **Audit Log**
 - **Permissions**
 - **Schedule**

The **Rate Sheets** log has the following toolbar options:

Toolbar option	Description
Create	To create a new rate sheet by copying a data from Company Workspace and Activity Sheet.
Refresh	To refresh the contents of the page.
Delete	To delete an item
Find on Page	To find an item on the page.

The **Rate Sheets** log has the following columns:

Column	Description
Name	The name of the rate sheet entered in the Create Rate Sheet dialog.
Description	The description for the rate sheet entered in the Create Rate Sheet dialog.
Last updated	The date the sheet was last updated manually or through Refresh.
Created By	The name of the user who created the rate sheet.

The **Rate Sheets** log lists the rate sheets and each rate sheet row has menu options that you can access by way of the *gear menu* (⚙️). The following table explains the *gear menu* options for each rate sheet:

Option	Description
Open	To open a rate sheet.
Copy	To select a rate sheet and create a copy of that rate sheet. Enter a name and description, and then click Save to complete the action.
Delete	To delete one or multiple rate sheets.

Note

The **Delete** option lets you delete multiple rate sheets simultaneously. If a rate sheet is being used in the **Activity Sheet**, it cannot be deleted.

Option	Description
Refresh	To refresh a rate sheet based on <i>resources and roles</i> that are used in the system activity sheet of the shell. Select a single or multiple rate sheets, and select Refresh to update the list of resources and roles based on the latest data available in the Activity Sheet, and the corresponding rates from the Master Rate Sheet. When the Confirmation message appears, select Yes. On refresh, the following updates are implemented: • If a resource/role has been removed in the Activity Sheet in the shell, the role/resource and corresponding rates are removed from the rate sheet. • If a resource/role has been added to the Activity Sheet in the shell, the new role/resource is added to the rate sheet and its corresponding rates are retrieved from the Master Rate Sheet. • If the resource/role exists in both Activity Sheet and the rate sheet, the system updates the resource/role name, if applicable (using resource or role ID as the identifier).
Export CSV	Use the options to export Role or Resource Rate Breakdown as CSV. This comprises the list retrieved from the shell Activity Sheet. The structure includes ID, name, status, effective date, cost type, rate type, and price/unit information. • Export Role Rate Breakdown: To export role rates data. • Export Resource Rate Breakdown: To export resource rates data.
Update Data	Use the options to import the modified Role or Resource Rates CSV files to update role and resource rates. • Import Role Rate Breakdown: To update the role rates using an imported CSV and making changes to the data from Export CSV (Export Role Rates). • Import Resource Rate Breakdown: To update the resource rates using an imported CSV and making changes to the data from Export CSV (Export Resource Rates).

The **Rate Sheets** log displays the rate sheet properties on the right pane within the following tabs:

Tab	Description
Audit Log tab	To provide the following information: • Date • Event • Action • Field Name • Old Value • New Value • User Name • Proxy User

Tab	Description
Permissions tab	To provide information about: • Selected Users/Groups • Permissions
Schedule tab	To set Frequency for Refresh Rates.

Note

To improve the view of the tab details, select Expand  in the right pane.

The following explains each tab in detail.

Rate Sheets Log Tabs

The following explains the tabs in the **Rate Sheets** log:

Audit Log

The **Audit Log** tab tracks all the events of the rate sheet and the component roles and resources.

Permissions

Use the **Permissions** tab to add users and groups and assign permissions for the specific rate sheet:

- **Modify Permission**
Users who have this permission will be able to modify the setup.
- **Edit & Refresh**
- **View**

The creator of the rate sheet is assigned all permissions by default.

Schedule

You can use the **Schedule** tab to set a frequency for automatic refresh of rates in the rate sheet at daily, weekly, monthly, or quarterly intervals between the specified start and end dates.

Creating a Rate Sheet

The **Create** option on the **Rate Sheets** log enables you to manually create a rate sheet and retrieve resources and roles information from the **Activity Sheet** and the corresponding rates from the **Master Rate Sheet**.

You can create multiple rate sheets as per business needs. For example, you can create an Internal Rate Sheet to apply internal rates for the resources and roles in the project. If they work on client sites, create another called External Rate Sheet. Other examples can include an Overtime and Standard rate sheets. Use the same rate sheet across the individual projects in the **Activity Sheet** or apply different rate sheets to the individual projects.

Note

Creating rate sheets is optional.

To create a Rate Sheet:

1. From the toolbar, select **Create** to open the **Create Rate Sheet** window.
2. Enter a name in the required **Name** field.
3. Optionally, add a description.
4. Select **Create**. (Select **Cancel** to exit the Create Rate Sheet dialog.)

The new rate sheet appears in the **Rate Sheets** log.

Rate Sheet Window

To access the Rate Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Rate Sheet** to access the **Rate Sheets** log.

The log lists the rate sheets. Each rate sheet has a *gear menu* (⚙️) that can be used to open the rate sheet; you can also double-click a rate sheet to open it.

The rate sheet log has the following toolbar options:

- **View**
- **Print**
- **Refresh**
- **Find on Page**
- **Expand All Groups**, or **Collapse All Groups**

The **View** toolbar option (the **Resource** view as is the default view) enables you to view the attributes of the rate sheet derived from the activity sheet. From the **View** toolbar option, use the **Resource** or **Role** option to switch between **Resource** or **Role** views respectively. The main log, or grid, and the **Rates** tab layout are identical in the two views.

In the main log, or grid, you can see the following columns:

- ID
- Name
- Type (not available for the **Role** view)
- Status
- Currency

Select any item to view and the **Rates** tab displays the details.

Rates

In the **Rates** tab, there are two columns:

- Effective Date
- Price/Unit

Information is retrieved from the **Master Rate Sheet**. You can create multiple rate instances for a resource/role for different effective dates. The **Cancel** and **Save** options appear when you make a change.

From the *gear menu* (⚙️) of a rate, select **Add** to add a row above it. Complete the **Effective Date** and **Price/Unit** fields. Select **Save** to save changes.

Note

The effective date and rates entered in the tab are not overwritten on refresh. Selecting Refresh in the Rate Sheets log pulls any additional resources and roles from the Activity Sheet.

On the **Rates** tab, you can select the **Create** option to open the Create Rate Breakdown window. The Create Rate Breakdown window has the following columns:

- **Cost Type**
To select the cost type corresponding to the rate which is being created for the role or resource.
- **Rate Type**
To select the type of rate which is being created for the role/resource.
- **Price/Unit**
To provide a price or unit by way of selecting from the drop-down field Manual (Price/Unit) from the method. This can be done manually or by using the Formula Builder (select the calculator icon in the Price/Unit cell).

WBS Sheet Node

To access the **WBS Sheet** node log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **WBS Sheet**.

Note

The location may differ in your implementation based on the Project/Shell **User Mode Navigator** configuration.

You can use a **System WBS Sheet** and:

- Define the work breakdown structure (WBS) for the entire project, by using CSV import. The System WBS Sheet is used across all the manual activity sheets.
- View the rolled-up costs (such as planned total costs/units, actual total costs/units, at completion total costs/units, and remaining costs) associated to the WBS codes in the System WBS Sheet.
- Define custom attributes for additional formulas (such as CPI, SPI calculations, and so forth).

- Capture the actuals incurred from the business processes, by using WBS pickers.
- Filter WBS data based on the Used By column.
- View planned, actual, remaining, and at completion costs and units from all activity sheets into default columns.

You can create the **System WBS Sheet** rows manually, by:

- Using Add Child and Add Sibling option.
- Using CSV import and RESTful services.

You can use the **System WBS Sheet** log (the name of the **WBS Sheet** sub-node log) window to:

- See the list and properties of a WBS sheet.
- Access a WBS sheet.

The **System WBS Sheet** log is divided into two panes:

- Grid or table (left)
- **Properties** tab (right)

The **WBS Sheet** node log displays the only available WBS sheet, the **System WBS Sheet**. In the **System WBS Sheet** log, or page, you can select a WBS item and use the three vertical dots icon (⋮) to expand the screen and see the properties of the item, if necessary.

 Note

The EVM data sources are displayed in the WBS Sheet columns for customers with access to the EVM feature.

The Work Breakdown Structure (WBS) code assignment is applicable only to the manual activity sheet. The Cost Breakdown Structure (CBS) code assignment is applicable to both the manual and the **System Activity Sheet**.

You can use a System WBS Sheet and:

- Export WBS template
- Import WBS codes using CSV or MPP
- Create WBS structure using RESTful services
- Set the Used By Column and filter data
- Define columns using numeric logical source and select multiple Activity Sheets
- Default columns to show costs and units from all the custom Activity Sheets

A System WBS Sheet grid contains information about:

- WBS Code
- WBS Name
- Linked Record
- ETC Technique
- Planned Units
- Planned Total Cost

- Actual Units
- Actual Total Cost
- Remaining Units
- Remaining Total Cost
- At Completion Units
- At Completion Total Cost
- Planned Units
- Planned Total Cost
- Actual Units
- Actual Total Cost
- Remaining Units
- Remaining Total Cost
- At Completion Units
- At Completion Total Cost

System WBS Sheet Log Toolbar options

The following explains the **System WBS Sheet** log toolbar options:

Add Column

Enables you to create a new column by providing values for the following required fields:

- Name
- Type
- Datasource
- Data Format
- Display Mode
- Total
- Column Position

View, which includes **Default**, **Create New View**, and **Manage Views**

Enables you to change the view of the WBS Sheet window. You can use these options to access created views, create new views, or manage the existing views.

Edit View

Enables you to select which columns to be displayed or remain hidden, apply filters, group and sort by available fields, and save custom views.

- In the **Columns** tab, add/remove/reorder columns in the default view. You can save as a custom view.
- In the **Filter** tab, add conditions to filter the results of a column.
- In the **Group By** tab, create or modify groups using column elements. For example, activity status.
- In the **Sort By** tab, define the sorting order (Ascending or Descending) of columns.

Print, which includes **Print**, **Export To CSV**, and **Export To Excel**

Enables you to print or export the **System WBS Sheet** contents.

Note

- For export to Microsoft Excel, the system currently supports only Euro (EUR) and United States Dollar (USD) currency symbols.
- If you export data from a business process (BP) record, sheet (such as an Activity Sheet), or log (such as Company Funding Sheet Log) to Excel, be aware that depending on how your negative values are formatted, you might need to configure your columns in Excel to match the correct data type (Number). Otherwise, the columns will not be treated as numeric and will not sum as expected. One supported format includes placing the negative sign between the currency symbol and the amount (for example, \$-1,000).

Refresh

Enables you to see the added values to the columns of the **System WBS Sheet**.

Find on Page

Enables you to search a for a **System WBS Sheet** on the worksheet (window).

Expand All Groups or **Collapse All Groups**

Enables you to expand or collapse a **System WBS Sheet** to see the subordinates. The tree-like structure displays the summarized WBS and corresponding values of the project selected in the Projects list. You can export the WBS structure from the sheet.

Menu Options ()

Enables you to do the following:

Import

Enables you to import **Column Details**.

The **Column Name** drop-down list in the **Import Column Details** window displays all the direct cell entry columns that have been added to the sheet. You can select any one column and import the values into the column, using the exported CSV file.

Export

Enables you to export **WBS Details**, **Column Details** or **Summary WBS Sheet**. When you select **Summary WBS Sheet**, the exported file will contain the entire System WBS Sheet information including all WBS Codes and columns data.

Columns

Enables you to hide or unhide (**Unhide**) columns as well as **Copy Column Data**.

Row Coloring

Enables you to apply **Multiple Colors** or **Single Color** to the columns.

Variance Analysis Setup

Enables you to set up the variance analysis by selecting the BP, workflow, record owner, and trigger conditions.

Create Variance Analysis Record

Enables you to create the variance analysis records for all the WBS Codes in the sheet. Before creating a Variance Analysis Record, you must set up the Variance Analysis at WBS level. Ensure that the business process that you select is active; otherwise, the system displays this message: "Business Process has not been selected."

Audit Log

Enables you to open the **Audit-Log: System WBS Sheet** window and see a list of associated events related to the sheet.

System WBS Sheet Log Columns

The following columns appear in the **System WBS Sheet** log:

- **Sequence No.**
- **WBS Code**
- **WBS Name**
- **ETC Technique**
- **Planned Units**
- **Planned Total Cost**
- **Actual Units**
- **Actual Total Cost**
- **Remaining Units**
- **Remaining Total Cost**
- **At Completion Units**
- **At Completion Total Cost**

The values for the following columns are coming from P6 directly:

Note

The **General** tab of each WBS code will not display these columns. In addition, formula values that depend on these columns will not display.

- **Planned Units**
- **Planned Total Cost**
- **Actual Units**
- **Actual Total Cost**
- **Remaining Units**
- **Remaining Total Cost**
- **At Completion Units**

- **At Completion Total Cost**

When you right-click each column heading, depending on which column on the grid, some or all of the following options will be made available:

Lock after this Column

To lock or release the position of a column on the grid.

Insert

To insert a column through:

- **Business Process Data Source**
- **Direct Cell Entry**
- **From EVA Sheet**
- **From Activity Sheet**
- **WBS Custom Attributes**
- **Formula**
- **Hidden**

Hide this Column

To hide the column that you had selected.

Delete

To delete a column.

Properties

To open the **Column Properties** window and review or change (with limitations) the properties of a column.

When you hover over each column heading, the system displays information about that column.

System WBS Sheet Log WBS Gear Menu

When you select a row (WBS code) in the **System WBS Sheet** log, you can select the *gear menu* () to:

- **Create Variance Analysis Record**
Available if you have **Edit** permission for the **System WBS Sheet**.

Enables you to create the variance analysis records for all the WBS Codes in the sheet. Before creating a Variance Analysis Record, you must set up the Variance Analysis at WBS level. Ensure that the business process that you select is active; otherwise, the system displays this message: "Business Process has not been selected."
- **Expand Row**
- **Collapse Row**

System WBS Sheet Log Properties Tabs

The following explains the properties tabs of the **System WBS Sheet** log:

On the right pane, you have the option to use the icons (on the right) to expand the pane or to dock the pane.

The following is a list of applicable properties tabs for each item in the System WBS Sheet log:

Note

Users who have at least the view permission for the auto-created record should be able to view the record by double-clicking.

- **WBS Line Items** tab
Displays the title, description, and amount, or quantity, of the WBS Line Items.
- **Cell Details** tab
Displays the following information:
 - **WBS Code**
 - **Currency**
 - **WBS Name**
 - **Cell Total Quantity**
 - **Column Name**
 - **Status**
- **General** tab
Displays details about the WBS Attribute Form such as the CM WBS name, code, and WBS type, ETC Technique, and EVM PV.
- **Earned Value** tab
Enables you to select a technique for computing the Estimate to Complete (ETC).
- **Variance Analysis** tab
Enables you to access information about the BP setup, workflow, and record owner. The tab also enables you to see the trigger conditions. Once finished adding values, select **Create Now**, or select **Save** to keep your changes.

This tab displays the following information:

Setup block

Business Process

You can select the Business Process at WBS Code level similar to the Variance Analysis Setup done at WBS Sheet. The drop-down menu lists of all project/shell-level BPs, enabling you to select a new value or modify the existing value.

Bypass Initiation Step during auto creation

If you select this option, the auto-created BP record will bypass the initiation step and land on the second step of the workflow.

Select Workflow

You can select a workflow if your selected BP has multiple workflows. The Select Workflow field function is similar to the Variance Analysis Setup window.

Record Owner

You can select the record owner at WBS level. This field lists all the OBS Pickers, User Pickers, and User Data Pickers added to the WBS Attribute Form. When you select the OBS Picker as the record owner, the picker in general tab displays the OBS users that you had selected.

Trigger Conditions block

Multiple trigger conditions can be defined for each WBS level. Adding trigger conditions is similar to adding at WBS Sheet level setup. You can add one or more additional conditions to indicate trigger condition of the current WBS. The Data Element, Condition, and Value must be specified exactly the same way as specified in the Variance Analysis setup at WBS Sheet level.

The **Create Now** option is enabled after you select the required fields on the tab. Use the **Create Now** option to auto-create the business process record manually if a BP is present in the setup. If the record owner is not specified, the system uses the auto-creator in the destination BP (auto-creation tab) as the record owner.

Note

Any trigger conditions defined are ignored in case you select the **Create Now** option.

- **Linked Records** tab

Enables you to access the records that are linked the sheet by listing all the linked records and details about each link such as record number, BP name, and so forth.

For a WBS code, the **Linked Record** column indicates whether there are any associated auto-created records for the WBS code. When you select the link, the right pane opens, with **Linked Records** tab highlighted.

The **Linked Record** column can be empty if no auto-creation of variance analysis record has been triggered.

All the auto-created records are shown in the Linked Records tab for each WBS code.

The following explains the toolbar options:

- **Refresh:** To refresh the items based on the latest records.
- **Find on Page:** To enable you to conduct a text-based search for each column.

The following explains the columns:

- **Record Number:** System auto-created business process record number.
- **BP Name:** The name of the Business process.
- **Title:** the title value from the business process record.
- **Status:** The current status of the auto-created record, including the terminated records.
- **Created By:** The username of the user who is creator of the auto-created record.
- **Creation Date:** The date that the record is auto-created.

- **Variance Analysis History** tab

Enables you to access history details for associated actions related to the sheet.

When a variance analysis record auto-creation fails, when you hover over the link cell, the following message is will be displays: "<failure reason>. Click to see history details." When you click, the right pane displays the history details. Here are some of the failure reasons:

- Business Process is not configured.
- Record owner does not have create permissions.
- Record owner is not active.
- Trigger conditions are not satisfied.

If the rotate icon is displayed instead of the link icon, the auto-creation of the record is still in progress. The link icon is displayed after the auto-creation is complete.

This tab captures the list of failed auto-creation for each WBS code, in case business process is inactive or trigger conditions have not been met, and so on. The following is a list of the columns in this tab:

- **Event:** Displays, "Error" for failed auto-creations.
- **Action:** Displays, "Auto Create."
- **Field Name:** This will be WBS code where the auto creation failure occurs.
- **New Value:** Displays the error text.

Creating a WBS Sheet

When an activity sheet is created, Unifier creates the WBS sheet, automatically.

About Auto-Creation

A BP record can be created automatically or manually from the WBS sheet. A new BP record can be created for any WBS, and the BP record will be permanently linked to the WBS. A WBS can be linked to one and only one BP record at a time.

In a Project, if any of the WBS Codes (the WBS Codes with line item data removed from P6) have line item data, the system dismisses the data and sets the WBS Status (uuu_cmwbs_Status) as inactive.

Note

In the scenario above, you will notice a discrepancy between P6 and Unifier.

When you attempt to create new line items, or records, in CBS- or WBS-type BP, the WBS Picker will not display inactive WBS Codes.

In the EVM Sheet, the WBS Picker displays the all the WBS Codes, regardless of the status. This is so you can see the actuals for the WBS Code that you select.

Manual WBS Sheet

WBS Sheets Log

A default **WBS Sheets** log, where there is no **System WBS Sheet**, contains the **Create** option, if you have the **Create** permission, which enables you to create a manual WBS Sheet.

If you do not have the **Create** permission for manual WBS Sheet, the **Create** option is not available. If the **System WBS Sheet** has been created, the embedded sheet is displayed (with project drop-down) by default showing the current project name. You can navigate to the other source project data (received from P6) by using the project drop-down.

When a manual WBS Sheet has been created, the **WBS Sheets** log displays the sheet title as: **Project WBS Sheet**. The **Project** drop-down (on the top section) displays the current project as the selected project. This **Project** drop-down is displayed at all times, and the value defaults to the current shell name for the **Project WBS Sheet**.

You can select another source (project) in the **Project** drop-down. The **Project** drop-down shows the source if there is WBS data integrated from P6 or Oracle Primavera Cloud. The **Project** drop-down will show the projects received from source (P6 or Oracle Primavera Cloud). When you select a P6 project, the WBS data that is related to the selected project is displayed.

In addition to other options (explained in the previous topics), the toolbar within the WBS Sheets log displays the following options:

- **Add Sibling**
- **Add Child**

The above options are available when the current project, for example **Project WBS Sheet**, is displayed. If you navigate to a P6 or Oracle Primavera Cloud project, the above options are not available.

The remaining options in the toolbar are the same as those for the WBS data received from a P6 or Oracle Primavera Cloud project.

The Project WBS Sheet view has the default project row with:

- The project/shell number as WBS Code.
- The project/shell name as WBS Name.

The default project row is a read-only row in the sheet.

When you add a parent WBS Code, by using the **Add Sibling** option, a new WBS row is created with required fields such as WBS Code and WBS Name.

It is only after the creation of a new WBS row that the **Cancel** and **Save** options become available. You cannot save your entry until the required fields are entered.

The condition above applies when you select the **Add Child** option.

Menu

Menu Option () contains the following options and sub-options:

- **Import**
You can import the WBS codes by using a CSV file or a Microsoft Project file saved as an MPP file. This import process works similar to the import of CBS codes in the Cost Sheet. When you select the current project, the following options are available:
 - **WBS Details**
To create WBS codes along with hierarchy.

You can import the WBS Details in bulk. This option, if you select the current project in the project drop-down, enables you to:
 - Add new WBS hierarchy and WBS codes.
 - Update ETC technique (see below for more information) and other attributes for an existing WBS hierarchy.
 When you import new WBS codes, Unifier checks for duplicate WBS codes. Your import fails if:

- You have modified an existing WBS hierarchy in the CSV or MPP file.
- You have removed an existing WBS hierarchy, or WBS Code, in the CSV or MPP file.

When you import the WBS codes successfully, the new WBS codes are appended to the existing codes in the activity sheet. The audit log (**Audit Log**) entry for the creation of the WBS code is:

- Date: The date and time of the event that has occurred.
- Event: WBS Details
- Action: Import
- Old Value: Not applicable.
- New Value: Not applicable.

– Column Details

- **Export**

You can export the WBS codes by using a CSV file. When you select the current project, the following options are available:

– WBS Details

To export the existing WBS rows in the Project WBS Sheet.

All the columns that are seen in the WBS Sheet are exported as column headers.

The entire WBS path is shown in the first column, for the WBS Code. All the existing WBS codes are exported to add new WBS codes at the end, by appending the new WBS codes along with the hierarchy in the CSV file. You cannot remove the existing WBS rows in the CSV file. New WBS codes are always added using a CSV or MPP file.

– Column Details

The following columns will be required and shown as required in the exported CSV file (the first two columns of the CSV file):

WBS Code

WBS Name

– Summary WBS Sheet

- **Columns**

- **Row Coloring**

- **Variance Analysis Setup**

– Create Variance Analysis Record

- **Earned Value Setup**

This option is shown in the **Project WBS Sheet** in addition to the options available for the **System WBS Sheet**. This option allows you to set an ETC technique (see below for more information) that can be used in ETC calculations that are performed at the WBS level. The technique selected here is applied to all the WBS Codes in the sheet. The technique overrides the individual WBS Code ETC technique selected, if one exists.

- **Properties**

This option is shown in the **Project WBS Sheet** in addition to the options available for the **System WBS Sheet**. This option shows the **Project WBS Sheet** default properties.

- **Audit Log**

This option is shown in the **Project WBS Sheet** in addition to the options available for the **System WBS Sheet**. There are no changes to the events that get audited in System WBS Sheet. For the Project WBS Sheet, the audit log captures the creation, update, and

removal of WBS Codes in the sheet. Any updates done manually in the sheet are audited. The details of the audit log in the Project WBS Sheet are explained in the next section.

The current project log, for example **Project WBS Sheet**, contains the following columns:

Column	Description
Row number	(Read-only) This column does not have a header. When you enter a new row, delete a row, or reorder rows, the row numbers are updated throughout the grid. You can use this column to capture errors in the grid. For example, if you do not data in a required field, or when validation fails, the cell for the corresponding row displays a red triangle. You can select the triangle to see the errors in a box, similar to a business process (BP) line item grid.
WBS Code (uuu_cm_wbscode)	This is an editable column and is required when a new row is created by using the Add Sibling or Add Child options. The WBS Code value is unique across the hierarchy. The system displays an error message if you enter a duplicate WBS Code. The value of the WBS Code cannot contain periods or dots (.) because periods and dots are used as separators in the WBS Path. Also, when creating or updating WBS codes in a sheet, ensure that the value of WBS codes within a CSV file (CSV import) or REST service do not include any periods or dots. If the system detects periods or dots in the value of the WBS Code, the following message is displayed: Invalid data entered in the following field(s).
WBS Name (uuu_cm_wbsname)	This is an editable column and is required when a new row is created by using the Add Sibling or Add Child options. The WBS Code value is unique across the hierarchy.
Linked Record	(Read-only) This column is populated with the linked record associated to the WBS Code. The system populates the icon of the WBS Code that has the variance analysis record created.
Other columns	The other columns appear as defined in the column properties. The fixed columns are shown along with the user-defined columns. If you do not define any user-defined columns, all the fixed columns are shown by default.

You can drag the child WBS codes to another location, below any parent. The WBS Codes cannot be dragged to any row beyond the parent or hierarchy. You cannot drag a parent WBS Code.

Gear menu (⚙):

The *gear menu* is not available if you select multiple WBS rows (parent and child rows).

- **Add Sibling**
To add a sibling to the row.
- **Add Child**
To add a child to the row.

- **Copy**
You can copy one or more WBS rows at the same level. This option is not available if the selected rows are in a hierarchy. This option is only available when you select multiple WBS child rows.
- **Paste**
This option becomes available if you have copied a row. Use this option to paste the copied rows in the desired location, in the sheet. This option is only available when you select multiple WBS child rows.
- **Remove**
This option becomes available if the WBS row is not associated to any activity sheet, or there are no costs allocated. This option is not available if at least one WBS row is associated to an activity sheet or has rolled up cost. This option is only available when you select multiple WBS child rows.

Rows Added to WBS Sheet

The WBS Sheet, with the WBS rows added, is shown on the left side of the log. When a WBS Code is associated to the manual activities, the activity sheet name is populated in the **Used By** column field, displayed in the WBS Details in the right pane. The **Used By** column field is a read-only field and displays all the activity sheets that this WBS Code is associated with. The **Used By** column field is only available in the **General** tab only for the **Project WBS Sheet**. It is shown as the first field in the tab.

The WBS rows that are associated with an activity sheet cannot be removed. You can edit, or enter the data, in the editable columns in the sheet (the Cancel and Save options become available at this stage). The WBS Picker (in the cost business process) shows the current project's WBS codes that are associated with the activity sheet along with the source project's WBS codes. You can create transactions against the WBS codes of the current project.

Earned Value at Project Level

You can set up the earned value at the project level. Under **Menu Options** (☰), use the **Earned Value Setup** option to open the **Earned Value** window and select an ETC technique that can be applied to all the WBS codes. The selected ETC technique overrides the existing ETC technique defined at the WBS Code level.

In the **Earned Value** window, you can select the technique for computing estimate to complete (ETC). By default, the **ETC = Remaining Cost of activity** option is selected. When you select **ETC = PF * (Budget at Completion - Earned Value)**, ETC is equal to a performance factor (PF) multiplied by (Budget at Completion minus Earned Value), you can select one of the following to set a value for the performance factor:

- **PF = 1**
Performance Factor equals 1. This method yields an optimistic result with ETC equal to the Budget At Completion (BAC) minus Earned Value Cost. This is the default option selected.
- **Performance Factor = 1 / Cost Performance Index**
Performance Factor equals 1 divided by the Cost Performance Index (CPI), where CPI equals the Earned Value Cost divided by Actual Cost.
- **PF = 1 / (Cost Performance Index * Schedule Performance Index)**
Performance Factor equals 1 divided by the Cost Performance Index multiplied by the Schedule Performance Index (the Earned Value Cost divided by the Planned Value Cost).
- **PF = <select a value>**
Performance Factor is specified by you. If you select this option, you must enter a value (factor) in the field.

After you select an option and save your selection, the system displays the following message: **The selected ETC technique will be applied to all WBS Codes in the Sheet. Do you want to continue?** If you select to continue, then:

- The selected ETC technique is applied to all WBS Codes.
- The audit log (**Audit Log**) of the WBS Code displays an entry of the ETC technique update.

If you select not to continue, the selected ETC technique is not applied to any WBS Code.

Earned Value Setup at WBS Level

For the WBS level, in the **Project WBS Sheet** log (bottom portion of the log), you can select the **Earned Value** tab to see the options for selecting a technique for computing the estimate to complete (ETC). The **Earned Value** tab is available for both the summary level and leaf level WBS codes. After you select a technique, for the summary level WBS codes, you can apply the ETC technique to all child WBS codes (**Apply the ETC Technique to all child WBS Codes**).

WBS Path Behavior in WBS Sheet

The **General** tab (in the **Project WBS Sheet** log (bottom portion of the log) contains a data element (uuu_P6WBSPath) that shows the WBS Path.

Example

Project1

W1

W2

Activity 1

For the WBS W2, the WBS Path will be displayed as Project1 > W1 > W2 so that any activity created using W2 (as WBS Code) shows the WBS Path as Project1 > W1 > W2, using the auto-populate definition.

WBS Sheet Properties Window

You can use **Menu Options** () in the **Project WBS Sheet** or **System WBS Sheet** to access the **Properties**.

When a manual WBS Sheet is created (through the **Create** option in the log), the system automatically creates the following properties:

- **Name**
The name of the WBS sheet. For example, Project WBS Sheet. This field can be 100 characters long.
- **Description**
The description of the WBS sheet. This field can be 4000 characters long.
- **Last Modified**
This is a read-only field. The date the WBS sheet is created or updated.
- **Created By**
This is a read-only field. The signed-in user who created the WBS sheet (using the Create option).

Project WBS Sheet (Audit Log)

You can use the **Menu Options** () to access the **System WBS Sheet** and **Project WBS Sheet** audit log (**Audit Log**). The audit log captures the details for all the manual WBS sheets (including their attributes) that have been created, updated, and removed. The audit log entries for the events such as manual creation or update of the **WBS Codes** and **Earned Value Setup** are as follows, and all the events are audited similar to the **System WBS Sheet**:

Attribute Update Reason	Date	Event	Action	Field	Old Value	New Value
WBS Code create	Date and time event occurred	Project WBS Sheet	Create	<WBS Code>	Not applicable	<New Value>
Fields in WBS attributes updates either from sheet or from form view	Date and time event occurred	Project WBS Sheet	Update	<WBS Code> > <Field Name>	<Old value>	<New Value>
WBS Sheet level setups	Date and time event occurred	Earned Value Setup	Create	Project WBS Sheet > Earned Value Setup > All WBS Codes	Not applicable	<New Value>
WBS Sheet level setups updates	Date and time event occurred	Earned Value Setup	Update	Project WBS Sheet > Earned Value Setup > All WBS Codes	<Old Value>	<New Value>
Rearrange of WBS Codes will be audited	Date and time event occurred	Rearrange	Cut, Copy, and Paste	<WBS Code>	<old location>	<new location>

Adding Columns to a WBS Sheet

You can add WBS custom attributes to a WBS sheet, as columns. The **WBS Sheet** window toolbar Menu Options icon () enables you to add columns to the **WBS Sheet**.

Note

By default, all the predefined columns that are in hidden block in the WBS Attribute Form will display when you open the WBS sheet.

The following explains how to add a column by way of creating a new column or copying an existing column.

To add a new column:

1. From the toolbar, select **Add Column**  to open the **New Column** window.

2. Enter or select values in the following required fields:

- **Name**
- **Type**
- **Datasource**
- **Data Format**
- **Display Mode**
- **Total**
- **Column Position**

The following fields are optional and enable you to customize you newly added column:

- **Data Format**
- **Display Mode**
- **Total**

3. Select **Save** or **Save & Add New** to continue.

The following explains the required fields:

Name

The name of the column that you want to add. The value in this field is pre-populated according to the selected **Datasource**; however, you can override the pre-populated value.

Type

This field has the following options:

- **Business Process Data Source:** When you select this option, all the data elements, based on SYS BP Decimal Amount and SYS BP Currency Amount which are added on the WBS Attributes Form, are displayed in the **Datasource** drop-down list. Select this option if want to pull the roll up information for the new WBS (Type-cost BP). The **Datasource** drop-down list will be displayed followed by the Formula creator option which enables you to create the query for the column. When you select the Formula Picker, the Formula creator window displays the list of new Cost-type BPs with different statuses where you can select BPs to see the roll-up amount.
- **Direct Cell Entry:** When you select this option, all the data elements, based on SYS Numeric and Date logical data sources, are displayed. You can define manual entry column by using the logical sources. You can copy the data in the **Direct Cell Entry** field and paste it into other manual entry column.
- **From EVA Sheet:** When you select this option, all the data elements, based on SYS Numeric logical data sources as data sources, are displayed. Select this option if you need to populate data into WBS sheet from an EVA sheet. When you select the logical data source, you can select the sheet name and available DEs, per selected sheet, are displayed as columns to add.
- **From Activity Sheet:** Select this option if you need to populate data in to the WBS Sheet column from an Activity Sheet. When you select this option:
 - All the data elements are displayed in the **Datasource** field (based on SYS Numeric logical data sources and SYS Date logical sources).
 - The logical data source, you can select the sheet name and available DEs, per selected sheet, are displayed as columns to add.

- When you select the SYS Date logical data source, all of the date columns (like Planned Start, Planned Finish, and so on) from the Activity Sheet will be available to pick.
- **WBS Custom Attributes:** When you select this option, all of the custom attributes that are added in WBS Attributes Form are displayed.
- **Formula:** When you select this option, all of the data elements are displayed in the **Datasource** field (based on SYS Numeric, SYS Date logical data sources, and SYS Integer Amount). If you select **Formula** as the type, the **Datasource** field displays the following:
 - A list of all of the SYS Numeric and SYS Date logical source data elements that allow formula-type entry. The logical source data elements that already have been used to create a column will not be listed.
 - A formula creator window (**Formula Creation Window**) that you can use to create the formula for the column. The formula window shows the list of all numeric columns that can be created as formula.

Datasource

The drop-down list displays a list of all SYS Numeric and SYS Date logical source data elements which allow the formula-type entry. The sources that have been used to create a column will not display in the list. The **Datasource** drop-down list will be displayed followed by the Formula creator option which enables you to create the formula for the column. The Formula window shows all of the list numeric columns (all Numeric Columns) that can be created as formula.

Data Format

The data format options are:

- **Currency**
- **Decimal**

The **Data Format** option is available only when SYS Numeric logical source **Datasource** is selected, and by default the **Currency** must be selected. There are no data format for Date- and String-type data elements.

If you select the SYS BP Currency Amount data element, the default option will be **Currency**.

If you select the SYS BP Decimal Amount data element, the default option will be **Decimal**.

When you select **Decimal**, and proceed to choose a number, the system displays the choice of decimal places (values are zero to eight).

Summary Rows

Within the formula columns, in the WBS Sheet, you can select the type of summary rows that you want to display. The options under the **Summary Rows** block enable you to display the roll-up value from children (**Sum of All Rows**), or to display the formula value (**Use Formula Definition**). Your options are:

- **Blank**
- **Sum of All Rows**
- **Use Formula Definition**

Display Mode

The display mode options are:

- **Show**
- **Hide**

Total

The total options are:

Blank

- Sum of All Rows
- Use Formula Definition: This option is available for a formula column.

Column Position After

To position the newly added column.

- If you choose a column in the Cost sheet and then select to add a column, the **Column Position After** drop-down will be pre-populated according to the name of the selected column in the WBS sheet.
- If you select no column and then select to add a column, the **Column Position After** drop-down will be pre-populated according to the name of the last column in the WBS sheet.

To add a new column by way of copying an existing column:

1. From the toolbar, select **Menu Options** ().
2. Select **Columns**.
3. Select **Copy Column Data** to open the **Copy Column Data** window.
4. Select values in the following fields:
 - **Copy from Column** (required)
 - **Percentage**
 - **Paste to Column** (required)
5. Select **Save** to continue.

The following explains the fields:

Copy from Column (required)

Displays all the existing manual-entry or formula-based numeric columns for you to select.

Percentage

To enter the percentage value. The value must be greater than zero and less than or equal to 100.

Paste to Column (required)

Displays all the existing manual-entry numeric columns for you to select.

If you right-click the **Direct Cell Entry** of a numeric column, you can hide, lock, copy (the column data), paste (the column data) into, delete, or see the properties of that column. The **Copy Column Data** option is available only for:

- Direct Cell Entry columns
- Custom elements that have been added as columns

The **Copy from Column** field will be pre-populated with the name of the selected column; however, you can change the source to any other source.

If you right-click the column header, you can see some or all of the following options:

- **Insert**
- **Hide this Column**
- **Lock after this Column**
- **Delete**
- **Properties**

Entering WBS Code into a System WBS Sheet

Additional ways to enter the WBS code into a System WBS Sheet are by using import CSV or REST services.

Note

The REST service data corresponds to the columns in the CSV template.

You can import bulk WBS codes by way of CSV. When you use a CSV template to import data:

The value for the **ETC Technique** required field, in the CSV template, is the remaining cost for the activity, by default, if you do not enter any other values.

The values, or codes, for the allowed **ETC Technique** are:

1 = Remaining cost for the activity

2 = $1 * (BAC - EV)$

3 = $1 / (CPI) * (BAC - EV)$

4 = $(1 / CPI * SPI) * (BAC - EV)$

5 = Performance Factor * (BAC - EV)

For a WBS, you can enter "Yes" as the value for the **Apply ETC Technique to Child WBS** field to use the same **ETC Technique** value to the child WBS.

The default value for the **WBS Status** is **Active**.

After you finish preparing the CSV template, you can save the file and proceed to import the CSV file into the System WBS Sheet. To import:

1. Open the **System WBS Sheet**.
2. Select **Menu Options**, select **Import**, and select **WBS Details**.
3. Navigate to the location of the CSV file, select it, select **Open**, and confirm the import. You can see that the values are added in the columns (WBS Codes, WBS Name, and so forth).

Editing the Default Values of the Columns

In the **System WBS Sheet** log, you can edit the default values of the columns (Planned Units, Actual Units, and so forth).

1. Select the column header.
2. Right-click the header, and select **Properties**.

3. Proceed to update the fields in the **Column Properties** pop-up window. You can change the default columns structure in the **Column Properties** window.

Roll-up Value

In the **System WBS Sheet** log, you can add columns and conduct a roll-up value for the added column, either by using all manual activity sheets or a single activity sheet.

When you add a new column, you can select the (right-click in the **Sheet Name** field of the **New Column** window) **All Manual Activity Sheets** option to get the data (roll-up) from all the activity sheets, and not just one. You can only do the roll-up from activity sheets with an **Active** status.

Auto-Creating Variance Analysis BP Records

The **WBS Sheet** window toolbar menu drop-down enables you to set up the variance analysis. Select the toolbar menu drop-down icon, and select the **Variance Analysis Setup** option. Use this option to set up the auto-creation of business processes for all the WBS Codes. The option enables you to open the **Variance Analysis Setup** window and select the following elements to be able to create the variance analysis record:

- *Business Process*
The **Business Process** field enables you to select the business process (BP) record that must be auto-created. You can select from a list of all BPs that are active in the current project/shell, one BP at a time.
- *Initiation step*
Selecting the **Bypass Initiation Step during auto creation** option enables you to create workflow BP records by passing I-Step during auto-creation and land on the second step of the workflow. In case of a non-workflow BP, an auto-created record will be in submitted mode.
- *Workflow*
The **Select Workflow** field is available when multiple workflow schemas are available for the BP that you have selected. If the selected BP is a Non-Workflow BP, the **Workflow** field will be disabled.
- *Record Owner*
- *You can see the User Pickers, OBS Pickers, or User Data Pickers that have been added in the WBS form.*
- *Trigger Conditions*
You can add one or more conditions to determine the trigger condition of the WBS. For example, the WBS Type can be CA. After you select the trigger condition, select the plus icon (+) to see an empty row in trigger conditions. A trigger condition is not required to save the variance analysis setup. The **Trigger Conditions** block lists the following information:
 - Data Element
 - Condition
 - Value
 - Message
- *Schedule*
Under the **Schedule** block (scroll down on the **Variance Analysis Setup** window) you can schedule auto-creation of the BP record and set frequency.

Range of Recurrence

You can determine a range for auto-creation to reoccur.

Create Variance Analysis Record

① Note

Before creating a Variance Analysis Record you must set up the variance analysis (**Variance Analysis Setup**).

When you select the **Create Variance Analysis Record** option, you trigger the auto-creation of the BP that you have selected during the variance analysis setup for all the WBS Codes.

Viewing a WBS Sheet

You can use the **View** option to access created views, create new views, or manage the existing views.

- **Default**
- **Create New View**
- **Manage Views**

You can select the three vertical dots on the left side of the window or the three horizontal dots

at the bottom of the window ( or ) to expand the window and see the properties of any selected **WBS Code**.

The **Default** view provides a view similar to the BP log view, Cost Sheet log view, or other logs with the Standard View option.

To create a new view for the WBS Sheet worksheet window, select **Create New View**, then:

Use the **Save View As** field to name your new view. If you save a new view without selecting any columns, a new view is created with the **WBS Code** and **WBS Name** columns.

Use the following tabs for adding columns, filtering, grouping, and sorting:

- **Columns** tab
- **Filters** tab
- **Group By** tab
- **Sort By** tab

The **Available Columns** box displays all user-defined columns that you may need for your newly created view, including the **Linked Record**. The **Selected Columns** box displays all the columns that you select. You can move columns in and out of the **Selected Columns** box.

① Note

By default, the system includes the **WBS Code** and **WBS Name** columns in the **Selected Columns** box; therefore, these two options are not listed in the Available Columns box.

Use the following fields to set the position of the new view:

- **Left Lock after Column**
Displays a list of all columns, except the last column from the selected columns list. By default, the "None" option is selected, which means that you have chosen no column to be locked, from the left of the sheet.
- **Right Lock after Column**
The default value is "None," which means that you can select not to right-lock the column in the view. Other values in this field are based on the value that you have selected in the **Left Lock after Column**.

The **Filters** tab enables you to filter the rows by WBS Sheet column data, or by WBS Attributes. For WBS Sheets, there are two sections in this tab: WBS Attributes and Sheet Columns.

The **Search Parameters** block displays all the DEs from the WBS Attribute Form that are added in uDesigner (this includes elements from WBS Attribute Form that are added as columns). The list also includes the fixed 8 columns that will be seen in WBS Sheet.

When a filter is applied, the view shows all the WBS rows that match the filter criteria, with their Summary Codes.

Additional checkbox for filtering rows with Linked BP records is also available (WBS Codes with Linked BP Records). When you select this option, when filtering, only the WBS Codes that have linked records will be filtered.

The **Group By** tab has two columns:

- **Group By**
Displays all the attributes that are added in the WBS form, which includes all the custom DEs. By default, "None" is selected, and you can select any field to set the Group By. All columns include linked records column.
- **Order**
By default, the **Ascending Order** is selected, but you can select to show the contents of the column in **Descending Order**, when groups are displayed.

The **Sort By** tab has two columns:

- **Sort By**
Displays all the columns that are added in the WBS Sheet. By default, "None" is selected, you can select any field and set **Sort By**.
- **Order**
By default, the **Ascending Order** is selected, but you can select to show the contents of the column in **Descending Order**, for the data to be displayed in selected **Sort By** column.

To manage the view for the WBS Sheet worksheet window, select **Manage Views**, and select which of the available views (under the **View Name** block) you want to become visible to the user. The **Cancel** and **Save** options let you cancel your changes (no changes will be saved and window gets closed) or save any changes that you have made and close the window.

The **Edit View** option enables you to change the view of your WBS Sheet window. The function of the **Edit View** option is identical to **Create New View**.

WBS Sheet with User-Selected View

When you select a user-defined view in the WBS Sheet worksheet window, you will notice the following changes:

Toolbar options:

From the toolbar, the **Add Column** option is not available, but the following options are available:

- **Edit View**
- **Print**
- **Refresh**
- **Find on Page**
- **Collapse All Groups**
- **Expand All Groups**

Menu options (☰):

- **Row Coloring (Multiple Colors, Single Color)**
- **Variance Analysis Setup**

The row coloring changed in the view will be temporary.

Gear menu (⚙):

The *gear menu* options available for each *WBS Code* enable you to expand or collapse the component.

The *gear menu* options available for each *WBS Code component* enable you to **Create Variance Analysis Record** in addition to expanding or collapsing the component.

Column menu options and cell properties:

The column menu actions are not available when you right-click the column header.

When you select in a cell, the right pane opens with the following editable tabs:

- **General** tab
- **Variance Analysis** tab
- **Linked Records** tab
- **Variance Analysis History** tab

You can use:

- The **Expand** icon to expand the right pane.
- The **Doc Bottom** icon to move the right pane under the WBS Sheet worksheet.

Drag and Drop columns option:

You can drag and drop columns to different locations on the WBS Sheet worksheet. When you do so, the user-defined view name (name is shown in the **View** field of the toolbar) will get the prefix: **(Modified)**.

Edit View toolbar option:

Use the **Edit View** toolbar option to modify the user-defined view. You can modify the list of available columns, apply filters, change grouping, or change sorting.

In the **Group By** tab, you have the option of grouping based on appropriate rows grouped within, in the view. After you set the first option for Group By, you can use the *gear menu* (⚙) to add the second option. The header of each group, with its appropriate rows, appears as an additional column before the WBS Code Column. After you set the Group By to the view, the

group summary row displays the summary value based on the group by column **Properties** followed by **Total** option. The summary, sum of all rows, formula definition will be blank.

The data seen in the user-defined view will be based on the filters selected in the view.

For the numeric columns, the filter total will be shown along with the column total.

WBS Sheet views when you switch between P6 Projects

After applying a user-defined view, if you switch to another P6 Project, the data will be filtered based on the selected view. Also, when drag and drop a column in a user-defined view, the view name will be prefixed with: **(Modified)**. In this case, if you switch to a different P6 Project, still the **(Modified)** view name is displayed until you close the WBS Sheet. Position of the columns and sort order of the columns remain as is, when you shift between different P6 projects, for a user-defined view.

OBS Sheet Node

An Organization Breakdown Structure (OBS) sheet contains the following information:

- Full Name
- Short Name
- Unifier User
- Title
- Department
- Status
- WBS Name
- Contract No
- Weekly Capacity

The **OBS Sheet** node log displays the only available OBS sheet.

OBS Sheet Node Log

To access the OBS Sheet log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **OBS Sheet**.

Note

The location may differ in your implementation based on the Project/Shell **User Mode Navigator** configuration.

You can use the **OBS Sheet** log to:

- See the list of OBS sheets with corresponding general information.
- Access an OBS sheet.

The **OBS Sheet** log is divided into two panes:

- Grid or table (left)
- **General** tab (right)
- **Audit Log** tab (right)

When you select an OBS sheet on the grid, the **General** tab displays the details about the OBS sheet. The **Audit Log** tab displays a list of events with details. In the **General** tab, the **Name** field will be editable if the OBS sheet is not used anywhere. The **Description** field will always be available for changes. If you have **View** and **Modify** permissions, you can export the **Audit Log** into a CSV file. A CSV export contains all the fields in the OBS sheet.

Accessing an OBS Sheet

To open an OBS sheet from the **OBS Sheet** log:

1. From the **OBS Sheet** log, select a row.
2. Select the *gear menu* () .
3. Select **Open** to open the **OBS Sheet** log.

The **OBS Sheet** log has the following toolbar options:

- **Add Sibling**
Enables you to select a record and add an associated member.
- **Add Child**
Enables you to select a sibling and add an associated member.
- **Actions**
Enables you to import or export data.
- **Find on Page**
Enables you to search for an OBS sheet on the log.
- **Expand All Groups** or **Collapse All Groups**
Enables you to expand or collapse an OBS sheet to see the subordinates. The tree- like structure displays the summarized OBS and corresponding values of the project selected in the Projects list. You can export the OBS structure from the sheet.

The **OBS Sheet** log displays the following required information about each OBS sheet:

- Full Name
- Short Name
- Status

The **OBS Sheet** log displays optional information about each OBS sheet such as:

- Unifier User
- Title
- Department
- WBS Name
- Contract No
- Weekly Capacity

You can select the **X** icon to close the OBS sheet, exit the **OBS Sheet** log, and return to the **OBS Sheet** log (in the left Navigator, select **Activity Manager**, and then select **OBS Sheet**).

Additional information

OBS structure can also be generated through CSV import. Template can be exported using the Export Data.

OBS Picker

The OBS picker will be available for assigning an OBS to WBS Sheet. The OBS Picker will display only the OBS records with Active status.

Note

The OBS picker supports both "And" and "Or" query conditions.

Creating an OBS Sheet

When there are no OBS sheet available, you can go to the **OBS Sheet** log and create one.

Note

After an OBS sheet is created, the **Create** option will no longer be available because a shell can only have one OBS sheet.

To create an OBS sheet, when there are none:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **OBS Sheet**.
3. From the toolbar, select **Create**, and select one of the following options:
 - **New**
To open the **Create OBS Sheet** window and complete the fields required for creating a new OBS sheet.
When finished, select **Create**.
 - **From Template**
To open the **Templates** window and select the required template for creating a new OBS sheet.
When finished, click **Select**.
 - **From Project**
To open the **Projects** window and select the required project for creating a new OBS sheet. You can only select one project.
When finished, click **Select**.
4. Select **Save** to complete creating an OBS sheet.

About Unifier and Oracle Integration

You can use integrations from Oracle Integration to update:

- Manual Activity Sheets from Oracle Primavera Cloud
- System Activity Sheets from Oracle Primavera Cloud
- Master Rate Sheet from Oracle Primavera Cloud

Updating Manual Activity Sheets Using Oracle Integration

You can create custom integrations in Oracle Integration and then invoke these in Unifier to get data in activity sheets or send data from activity sheets.

Prerequisites

- The project/shell is configured to integrate with Oracle Integration.
- In the **Integration** node of the **Company Workspace**, the **Enable Integration** field is set to **Yes** in the **Connect** tab of the **Oracle Integration Cloud** window.
- An Oracle Integration configuration is setup with one or more integrations for manual activity sheets.
- Ensure that you have the necessary integration permissions.

Contact your Company Administrator if any of the above prerequisites are not enabled.

Procedure

To update data in manual activity sheets by using integrations from Oracle Integration:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager** and select the **Activity Sheets** node.
3. In the right pane of the **Activity Sheets** select a manual activity sheet that is set up to use the integration from Oracle Integration.
4. To get data into the manual activity sheet, select  **Get data into Activity Sheet**.
 - In the **Get Data** dialog box:
 - i. Select any of the following options to get data:
 - Select **All Projects** to get data from all projects.
 - Enter a project ID to get data from a specific project.
 - ii. In the **Type** field, select **Baseline**.
 - iii. Perform any of the following actions:
 - Select **OK** to initiate the integration from Oracle Integration and bring the data into the manual activity sheet.
 - Select **Cancel** to discontinue.
5. To send data into the manual activity sheet, select  **Send data from Activity Sheet**.
 - In the **Send Data** dialog box:
 - i. Select any of the following options to get data:
 - Select **All Projects** to send activity data from all projects.
 - Enter a project ID to send data from a specific project.
 - ii. In the **Type** field, select **Baseline**.
 - iii. Perform any of the following actions:

- Select **OK** to initiate the integration from Oracle Integration and send data from the manual activity sheet.
 - Select **Cancel** to discontinue.
6. In the **History** tab of the manual activity sheet, review the job status.

Updating System Activity Sheets Using Oracle Integration

You can create custom integrations in Oracle Integration and then invoke these in Unifier to get data into System activity sheets or send data from System activity sheets.

Prerequisites

- The project/shell is configured to integrate with Oracle Integration.
- In the **Integration** node of the **Company Workspace**, the **Enable Integration** field is set to **Yes** in the **Connect** tab of the **Oracle Integration Cloud** window.
- A P6 **Project ID** or an Oracle Primavera Cloud **Project ID** and Primavera Cloud **Workspace ID** is associated with the project/shell. For more information, see the *Unifier General Administration Guide*.
- The System activity sheet is set up with relevant integrations from Oracle Integration to get or send data into/from the activity sheet.
- Ensure that you have the necessary integration permissions.

Contact your Company Administrator if the above prerequisites are not set up or enabled.

Procedure

To update data in System activity sheets using integrations from Oracle Integration:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select the **Activity Manager** and select the **Activity Sheets** node.
3. In the right pane of the **Activity Sheets** select a system activity sheet that is set up to use an integration from Oracle Integration.
4. To get data into the activity sheet, select  **Get data into Activity Sheet**.
 - In the **Get Data** dialog box:
 - i. Select any of the following options to get data:
 - Select **All Projects** to get data from all projects.
 - Enter a project ID to get data from a specific project.
 - ii. In the **Type** field, select **Baseline**.
 - iii. Perform any of the following actions:
 - Select **OK** to initiate the integration from Oracle Integration and bring the data into the system activity sheet.
 - Select **Cancel** to discontinue.
5. To send data from the activity sheet, select  **Send data from Activity Sheet**.
 - In the **Send Data** dialog box:
 - i. Select any of the following options to get data:

- Select **All Projects** to send activity data from all projects.
- Enter a project ID to send data from a specific project.
- ii. In the **Type** field, select **Baseline**.
- iii. Perform any of the following actions:
 - Select **OK** to initiate the integration from Oracle Integration and send data from the system activity sheet.
 - Select **Cancel** to discontinue.
- 6. In the **History** tab of the system activity sheet, review the job status.

Updating Master Rate Sheet Using Oracle Integration

You can use an integrations from Oracle Integration to update the Master Rate Sheet with all the workspaces, resources, and roles from Oracle Primavera Cloud.

You can use the **Oracle OPC Unifier Resources Roles Sync** integration delivered in the **Oracle Primavera Cloud - Primavera Unifier | Integrate Resources and Schedule** accelerator available in the Integration store in Oracle Integration.

Prerequisite

A connection between Unifier and Oracle Integration is established. For more information, see Initial Oracle Integration Setup.

Procedure

To update the Master Rate Sheet from within Unifier using an integration:

1. Go to the **Company Workspace** tab, and switch to **User** mode.
2. In the left Navigator, select **Master Rate Sheet**.
3. From the toolbar of the Master Rate Sheet log, select **Get Data** .
4. In the **Get Data** dialog box, select the name of the Oracle Integration you will use, and select **OK**.
5. In the **Confirmation** message, select **Yes** to continue.
6. To view the status of the job, select the **History** tab in the right pane.

You can select **Refresh**  to update the information until the **Status** displays COMPLETED. If the Status is FAILED, select the line to view more information about the error that occurred.

About Unifier and P6 Integration

You can integrate multiple P6 projects into one Unifier project.

- When you integrate (Project ID mapping) a P6 project into a Unifier project through the **General** tab of the **Shell Attribute** Form, the application updates the **Schedule Type** field in **General** tab.
The **General** tab is mostly used for one-to-one integration (one P6 project mapped to one Unifier project).

- When you integrate (Project ID mapping) multiple P6 projects into one Unifier project through the **Integration** tab of the **Shell Attribute** Form, the application does not update the **Schedule Type** field in the **General** tab.
In the **Integration** tab, the **Schedule Type** column is updated.

The **Integration** tab is mostly used for many-to-one integration (many P6 projects mapped to one Unifier project).

Prior to the Unifier 20.7 release:

When you performed **Get Data** from the **Activity Sheets** log, if the P6 Project ID was not defined in the **Shell Attribute** Form (**General** tab and **Integration** tab), the system would use the first import synchronization: **Select Synchronization to Exchange Activity Data**.

When you performed **Get Data** from the **Activity Sheets** log, if the P6 Project ID was defined in the **Shell Attribute** Form (**General** tab and **Integration** tab), the system would use the second import synchronization: **Select Synchronization to Exchange Activity and Assignment Data**.

Starting with the Unifier 20.7 release:

When you performed **Get Data** from the **Activity Sheets** log, whether the P6 Project ID is defined, or the P6 Project ID is not defined, in the **Shell Attribute** Form (**General** tab and **Integration** tab), the system uses a single import synchronization: **Select Synchronization to Exchange Activity Data**.

The drop-down field (**Select Synchronization to Exchange Activity Data**) displays all the import synchronizations defined in Gateway for Unifier deployment, including the import synchronizations to get activity and assignment data which is used for EVM.

The system refers to the drop-down field (**Select Synchronization to Exchange Activity Data**) for the import synchronization selected in all the following cases:

1. P6 Project ID is added in the **Integration** tab
2. P6 Project ID is added in the **Shell Attribute** Form
3. When the project number in the **Shell Attribute** Form matches with the P6 project number.

Update of CBS Codes from P6

You can get the latest CBS Codes updates assigned to activities from P6 into the activity sheet, using gateway integration.

The Get Data synchronization that creates the activity sheet populates the following data:

- Scheduling data (activities along with assignments and spread data) from the P6 projects mapped to the current shell in the Integration tab.
- CBS Codes assigned to the activities.
- CBS Codes assigned to the resource and role assignments.
- Roles and Resources along with rates assigned to the activities.

Note

Subsequent updates of Role and Resource Rates in P6 will not trigger the updates in the Master Rate Sheet; however, subsequent updates of CBS Code for activities in P6 will trigger the updates in the Unifier Activity Sheet CBS assignments.

You can use P6 to capture duration as well as resource assignments (resource units, resource CBS assignment, resource units spread, actual resources consumed till date, and so forth). The Activity Sheet, in this case, can receive all the resource units, CBS assignments, and calculate costs using P6 data and rates.

Note

The export of CBS Cost codes from Unifier remain as is.

You can receive the latest updated CBS assignments to Activities and Resources and Role assignments when P6 data is pulled into the Activity Sheet. After the latest Get Data, you will be able to see that the CBS assignments updated in the Activity Sheet and re-costing sums the costs, by the latest CBS assignments. This applies to the existing Activities and Resources and Role in the Activity Sheet.

Note

All cost calculations will be updated based on the CBS assignment updates. In addition, any new earned value analysis (EVA) created will show the EVM data according to updated CBS Codes.

The following scenarios explain how to get the latest CBS codes updates assigned to activities from P6 into the activity sheet using gateway integration:

- CBS Code assigned to the activity are updated from P6, and the CBS Code received is inactive in project cost sheet
If the CBS Codes that are assigned to the activities, and updated, in P6, and the CBS Codes are not active in Unifier Cost Sheet, the Earned Value Analysis will not show those CBS Codes even though they are updated in the activity sheet. In this case, you will not be able to create BP actuals as those codes will not be shown in the CBS Picker.

If the CBS Codes updated for an Activity in P6 is no longer active in the Unifier Cost Sheet, do not update the current CBS assignment for the activity. There will be no change in cost calculations.

The **History** tab log will show the following message: The CBS Code <CBS code1> received from the P6 in Resource < Resource Name> of Activity <Activity ID> is inactive in the Unifier Cost Sheet and cannot be updated. This indicates that the activities (where the CBS assignments are) have not been updated.

For CBS Code assigned to the resources are updated from P6 and CBS Code received is inactive in project cost sheet:

If the CBS Code (updated for the resource in P6) is no longer active in the Unifier Cost Sheet, do not update current CBS assignment for the resources. There will be no change in the cost calculations.

In this case, the history log will show following message: The CBS Code <CBS code1> received from the P6 in Resource < Resource Name> of Activity <Activity ID>. This indicates that the activities where the CBS assignments are, have not been updated.

If the CBS Code is updated both at the activity and at the resource assignment level in P6, and the updated codes are inactive, the following two messages will be seen in the history log:

The CBS Code <CBS code1> received from the P6 in Resource < Resource Name> of Activity <Activity ID> is inactive in the Unifier Cost Sheet and cannot be updated.

The CBS Code <CBS Code1> received from the P6 in Resource < Resource Name> of Activity <Activity ID> is inactive in the Unifier Cost Sheet and cannot be updated.

Similarly, if the CBS Code that has been updated for the role in P6, and the CBS Code is no longer active in the Unifier Cost Sheet, do not update the current CBS assignment for roles. There will be no change in cost calculations.

The **History** tab log will show the following message: The CBS Code <CBS code1> received from the P6 in Role < Role Name> of Activity <Activity ID> is inactive in the Unifier Cost Sheet and cannot be updated. This indicates that the activities (where the CBS assignments are) have not been updated.

- CBS Code is removed for Activity or Resource assignment in P6:
If the CBS Code assignment does exist for the activity in Unifier Activity Sheet, do not clear the CBS assignment (with the latest data from P6). This is the case where CBS Code assigned to an activity is removed in P6 projects, and you received the latest activity data from P6 using the Get Data option.

The **History** tab log will not show any additional warning messages; however, the system ignores any cleared CBS assignments from P6.

- CBS Code is changed in Activity or Resource assignment in P6 and the activity sheet is updated with latest CBS assignments:
The existing EVA will start to show the PV or AC, CV, and so forth for both the old CBS Codes and the new CBS Codes.

The BP actual will no longer show the actuals that have line items with the old CBS Codes in the EVM Sheet (default view).

About Unifier and Oracle Primavera Cloud Integration

When Unifier and Oracle Primavera Cloud, are integrated, you can integrate Cash Flow and Schedule data between Unifier and Oracle Primavera Cloud. When Unifier, Oracle Primavera Cloud, and Oracle Integration are integrated, you can use Oracle Integration recipes to update the System Activity Sheet or the Master Rate Sheet (or both) in Unifier with information from Oracle Primavera Cloud.

In the **Activity Sheet** overlay page, you can use the **Open Project in <source name>** option to open the Oracle Primavera Cloud page and open the source URL either in P6 or Oracle Primavera Cloud, in a new tab. The **Activities** tab points to the relevant project data (the project that is selected in the drop-down provided there is an active login session).

The login on the new tab for P6 or Oracle Primavera Cloud will be displayed where you enter your login credentials to sign in and see the relevant project data.

Note

You can see the project is opened even when that particular project is closed in the source server.

Selecting this icon will open the source application in a new tab provided there is a valid URL specified. If no URL is defined in the **Company Settings**, this link will not be shown in the Activity Sheet.

Also, when you switch to Baseline, the link is not displayed.

Source Application Link in Activity Sheet

For the link to open a project in P6, from the Unifier Activity Sheet, you must manually add the mappings, as seen on the left side for project mapping template in the "Sync P6 and Unifier Projects."

① Note

The mappings are not available in the project mapping template.

Parameters needed for the project mapping template in "Sync P6 and Unifier Projects:"

P6	Gateway	Unifier
WBSObjectId	p6_wbs_id	uuu_int_internal_WBSObjectId
ObjectId	InternalProjectId	uuu_int_internal_proj_id

Similarly, for the link to open a project in Oracle Primavera Cloud, from the Activity Sheet, you must manually add the mappings, as seen on the left side for project mapping template in the "Send Primavera Cloud Project data to Unifier."

Parameters needed for project mapping template in "Send Primavera Cloud Project data to Unifier :"

P6	Gateway	Unifier
projectId	InternalProjectId	uuu_int_internal_proj_id

Activity Sheet Created from P6 through Gateway

Activity sheets capture the project scheduling data that is coming from either:

- P6 project or
- Oracle Primavera Cloud project

The project data (both current and baseline projects) from P6 or Oracle Primavera Cloud that is brought over to Unifier by way of non-EVM synchronizations is added to the activity sheet which can further be used in cash flow analysis.

① Note

If you are using P6, make sure that it is correctly configured before using **Get Data** to import information. For example, make sure that P6 is configured to use the **Planned values with Current Dates** option under **Earned Value Calculation** to ensure that spread data displays correctly in the EV analysis sheet.

The costs associated to the activities can be rolled up to the cost sheet. In general, you can assign a CBS code to the activities in the Activity Sheet when the activity sheet is created by using non-EVM synchronizations. This enables you to use the schedules, or costs, associated with the CBS code in your cash flow analysis. In particular, you can:

- Assign CBS Codes (cost codes) to the activities in the Activity Sheet created using non-EVM synchronizations.
- Assign CBS Codes (cost codes) to the activities in the Activity Sheet created using EVM synchronization for duration based schedules.
- Remove CBS assignments (assigned cost codes) to the activities, and resource assignments, in the Activity Sheet.
- View the planned, actual, at completion, remaining units, and costs associated with the CBS Codes (cost codes) in the cost sheet.

You can create an activity sheet from the **Activity Manager** by using the **Get Data** option, by way of P6 or Oracle Primavera Cloud integration with the following OOTB synchronizations available in Gateway Integration Settings:

1. Get Activity data from P6
2. Get Activity and Assignment data from P6 for EVM
3. Send Oracle Primavera Cloud Activity data to Unifier

When you create an activity sheet by using the "Get Activity data from P6" or the "Send Oracle Primavera Cloud Activity data to Unifier" synchronization, and using the "Get Activity and Assignment data from P6 for EVM" synchronization for duration-based project, you can assign CBS codes to the activities in the Activity Sheet regardless of the schedule type. This ability is applicable to Activity Sheet created with:

- Duration schedules.
- Resource-loaded schedules.
- Cost loaded schedules.

Note

You can bring CBS codes from P6 using the "Get Activity data from P6" and "Get Activity and Assignment data from P6 for EVM" synchronizations for the resource-loaded and cost-loaded schedules.

In an existing activity sheet that has been created by using **Get Activity and Assignment from P6 for EVM** synchronization,

- The **Assign CBS** options in the **Actions** field changes to **Assign CBS Code**, and the **Assign CBS** window label changes to the **Assign CBS Code**.
- The **Assign CBS** option in the *gear menu* () changes to **Assign CBS Code**.

In an existing activity sheet that has been created by using any source-application (for all types of schedules: Duration-based, Resource-loaded, and Cost-loaded):

- The **Assign CBS Code** option, in the *gear menu* () , allows you to add a CBS code to the activity sheet that uses the Duration-based schedule. You can select a CBS code from the cost code picker. The cost code picker enables you to select an active CBS code from the project cost sheet.
- In the **Assign CBS Code** window, the **General** tab displays the associated CBS codes.

- The **Assign CBS Code** option in the **Actions** field enables you to assign or update a single CBS code for multiple activities (in bulk), one at a time. In this case, the **General** tab of each activity sheet shows the updated CBS code.
- Any CBS code updates that have been made to an activity sheet will be audited and displayed in the **Audit** tab.
- Use the **Export CSV** option, in the **Actions** field, to export the CBS code assignments for the Resource-loaded and Cost-loaded schedules.
- The **Remove CBS Code** option, in the *gear menu* () , enables you to remove the existing CBS assignment for the activity sheet. This option is only available if the activity sheet has a CBS code assigned to it.

For Duration-based schedule, when you select the **Remove CBS Code** option:

- If you select **Yes**, the system removes the CBS code assigned to the activity sheet. The audit log will have an entry for an assigned CBS code that has been removed for the activity sheet.
- If you select **No**, the assigned CBS code remains as is.

In an existing activity sheet that has been created by using Resource-loaded and Cost-loaded schedules, when you select the **Remove CBS Code** option:

- If you select **Yes**, the system removes the CBS code assigned to both the activity sheet and the resource (Resource/Role). The audit log will have an entries for an assigned CBS code that has been removed for the activity sheet and the resource. Oracle recommends that you perform recost to calculate the costs (based on the CBS code update).
- If you select **No**, the system informs you that you can *only* remove the CBS code assigned to the activity sheet. If you select **Yes**, Unifier removes the CBS code assigned to the activity sheet. The audit log will have an entry for an assigned CBS code that has been removed for the activity sheet. Oracle recommends that you perform recost to calculate the costs (based on the CBS code update).

For Resource-loaded schedule, when you select the **Remove CBS Code** option:

- If you select **Yes**, Unifier removes the CBS code assigned to the resource (Resource/Role). The audit log will have an entry for an assigned CBS code that has been removed for the resource (Resource/Role).
- If you select **No**, the assigned CBS code remains as is.

To assign a CBS code or remove a CBS code for activities, in the Activity Sheet:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Activity Manager**, and then select **Activity Sheet**.
3. In the **Activity Sheet** log, select the activity that you want.
4. Select the *gear menu* () , and select one of the following options:
 - **Assign CBS Code**
When you select **Assign CBS Code**, the **Assign CBS Code** window opens which enables you to use the cost code picker to select the cost code that you want to assign to the activity sheet. The cost code picker displays only the active CBS codes within the Cost Sheet.

The CBS code that you select to assign will become *inactive* after you assign it to the activity sheet; however, the existing activity sheet data will roll up to the cost sheet and you can view the data, for the Resource-loaded and Cost-loaded schedules.

For the *inactive* CBS codes, the new activity sheet data that is coming from P6 will not be rolled up to the cost sheet. The CBS code assignments to the activities are audited and the added or updated CBS codes are displayed in the audit log. This includes the CBS code updates coming from any source by way of **Get Data**.

Using **Get Data** enables you to get the **Manage CBS Assignments** to the activities, from P6 by way of integration.

You can update a CBS code by way of **Get Data** from the **Activity Sheet** log, and the Cost Sheet will be updated accordingly.

If you do not have permission to update the **Activity Sheet**, the *gear menu* (⚙️) and the **Actions** menu will not display the **Assign CBS Code**, or the **Remove CBS Code** options.

- **Remove CBS Code**

Audit tab of the Activity Sheet

For every Activity Sheet, the Audit tab displays the audit log for each activity whenever the following CBS Code updates are done at the activity level:

- New CBS Code assigned to the activity.
- Updating a CBS code assigned to the activity.
- Removing the CBS code assigned to the activity.

The audit log columns display information such as:

Event

Displays "Assign CBS Code" or "Update CBS Code," corresponding to the events that resulted in adding or updating a CBS code. This column also displays "Remove CBS Code" in case of removing the CBS code assigned to an activity.

- **Field Name**
Displays the activity ID.
- **Old Value**
Displays the existing CBS code. When you remove an assigned CBS code, this column displays the existing CBS code.
- **New Value**
Displays the assigned CBS code. When you remove an assigned CBS code, this column does not display any data.

Assigning a CBS code to multiple activities in the Activity Sheet created by using EVM synchronization for Resource-loaded and Cost-loaded schedules:

Similar to assigning or updating a CBS code for an activity sheet, you can use the **Assign CBS Code** option in the **Actions** field to assign or update a single CBS code to multiple activities (in bulk), one at a time. In this case, the **General** tab of each activity sheet shows the updated CBS code.

When you select the **Assign CBS Code** option, in the **Actions** field, for an activity sheet, the **Assign CBS Code** window opens. You can select a CBS code from the cost code picker. The cost code picker enables you to select an active CBS code, from the project cost sheet, and assign it to the selected activities. The audit log will have an entry for an added or updated CBS code.

Assigning a CBS code to multiple activities, in the Activity Sheet created by using Duration-based schedule, using the Export CSV option:

Use the **Export CSV** option in the **Actions** field to assign a CBS code to multiple activities (in bulk), one at a time. Unifier will automatically performs validations (valid CBS code and active or inactive CBS codes) regarding the assigned CBS code.

Removing a CBS Code from multiple activities in the Activity Sheet created by using Duration-based, Resource-loaded, and Cost-loaded schedules:

Use the **Remove CBS Code** option in the **Actions** field to remove a CBS code assigned to multiple activities (in bulk), one at a time. When you select the **Remove CBS Code** option:

- If you select **Yes**, the system removes the CBS code assigned to selected multiple activities (in bulk). The audit log will have an entry for an assigned CBS code that has been removed. For the Activity Sheet created by using Resource-loaded and Cost-loaded schedules, Unifier requires your confirmation. If you select **Yes**, the system removes the assigned CBS code for the selected activities and all the associated resources (Resource/ Role). If you select **No**, Unifier only displays messages regarding the removal of the assigned CBS code for the selected activities for the activity sheet.
- If you select **No**, the assigned CBS code remains as is.

Using CSV import to assign CBS Code to multiple activities

In an Activity Sheet with all the schedule types, you have the option to import CSV to multiple activities, in bulk.

To import the CSV template to multiple activities:

1. Select **Actions**.
2. Select **Update Data**.
3. Select **Activities**.
4. Select **Import CSV**.

You can export the CSV template, using Export CSV, and bulk assign the CBS codes to multiple activities, in Duration-based schedules.

All validations (CBS codes, active, and inactive CBS codes) regarding the assigning of the CBS codes to multiple activities take place during the CBS code assignment.

Activity Sheet Created from Oracle Primavera Cloud Project through Gateway

When you create an Activity Sheet by way of integration with Oracle Primavera Cloud, you can assign CBS codes to the Activity Sheet.

In the Activity Sheet log, select the activity that you want.

Select the *gear menu* () , and select one of the following options:

- **Assign CBS Code**
- **Remove CBS Code**

In the Activity Attribute Form, the General tab displays the associated CBS code.

For details about the functionality for assigning, updating, and removing CBS code from an activity (in Activity Sheet) from P6 using both non-EVM and EVM synchronizations, see [Activity Sheet Created from P6 through Gateway](#).

Using CSV import to assign CBS Code to multiple activities

In an Activity Sheet with all the schedule types, you have the option to import CSV to multiple activities, in bulk.

To import the CSV template to multiple activities:

1. Select **Actions**.
2. Select **Update Data**.
3. Select **Activities**.
4. Select **Import CSV**.

You can export the CSV template, using Export CSV, and bulk assign the CBS codes to multiple activities, in Duration-based schedules.

All validations (CBS codes, active, and inactive CBS codes) regarding the assigning of the CBS codes to multiple activities take place during the CBS code assignment.

Unifier Activity Manager for Oracle Primavera Cloud Schedules

You can also integrate multiple Oracle Primavera Cloud projects into multiple Unifier projects.

In Oracle Primavera Cloud, if two or more projects have the same **Project ID**, then when integrating those projects into a single project, Unifier will randomly select only one of the Oracle Primavera Cloud projects that have same Project ID and integrate that project into Unifier.

Note

You can access the **Activity Manager** module for setting up Oracle Primavera Cloud schedules the same way as accessing the **Activity Manager** module in a shell. The **Activity Sheets** log components (for setting up Oracle Primavera Cloud schedules) are also the same as the **Activity Sheets** log in a shell.

The following explains the information specific the **Activity Sheets** log for Oracle Primavera Cloud schedules.

Options and Tabs	Description
Get Data	Use this option to: • Create an activity sheet for the first time. • Update an existing activity sheet with the most recent activity spread data from the Oracle Primavera Cloud project. Updating triggers a new OOTB import synchronizations if you have selected the Select Synchronization to Exchange Activity Data option in Gateway integration settings drop-down list. All the synchronized Oracle Primavera Cloud project activities, planned dates, actual, at completion dates, and associated WBS Code will be displayed in the activity sheet. If the shell is not active (inactive shell), Gateway integration will fail. When you select this option (Get Data), the system checks for the Oracle Primavera Cloud project that as defined in the Integration tab and then brings the Oracle Primavera Cloud project activity data and their schedules into the activity sheet: • Based on the import synchronization defined in Gateway settings, and • If Oracle Primavera Cloud and Unifier projects are linked. If you select this option and there is no Project ID added in the Integration tab, the system will display this message: <i>Valid Project ID is not specified in the Shell Integration Tab.</i>  Note Unifier does not bring the baseline (project data) from Oracle Primavera Cloud.
Send Data	Use this option to run the export synchronization to send the updated activities and schedules from an Activity Sheet to the Oracle Primavera Cloud. The data elements in the business processes, or the Shell Attribute Form, which have been set to reverse auto-populate (RAP) back to the Oracle Primavera Cloud Activity Sheet (using P6 Activity Picker) will get the latest updates into the Oracle Primavera Cloud Activity Sheet. You can send updated Activity Sheet data (such as: updated Actual Start Date or Finish Dates) to the Oracle Primavera Cloud project which is linked by way of the OOTB export synchronization option: Update Unifier Activity data in to Primavera Cloud. The Schedule tab, in the Activity Sheet log, shows this option, and you can set the scheduled send data based on frequency.

Options and Tabs	Description
Mapped Projects tab	The Mapped Projects tab has the following toolbar options: • Refresh: To refresh the log items for both the Mapped Projects tab and the History tab. • Find on Page: To conduct a search for items on the list. The Mapped Projects tab displays a list of all the mapped Oracle Primavera Cloud projects. The following columns are available in this tab: • Project ID: Displays the linked Oracle Primavera Cloud Project ID. • Project Name: Displays the project name. • Project Type: Displays the value of either Current or Baseline. If you receive the current schedule information, the Project Type column shows: Current. • Project Start Date: Displays the start date of the project. • Data Date: Displays the last refreshed date from Oracle Primavera Cloud. • Schedule Type: Displays Duration as schedule type.
Schedule tab	The Schedule tab enables you to set the frequency for Get Data along with a table that shows the schedules based on the frequency. This is applicable to all projects in the activity sheet. Other drop-down values for the Set Frequency for will be Send Data. You can select Send Data, but the OOTB synchronization option is not available for sending the updated activity data back to Oracle Primavera Cloud.
History tab	The History tab displays the history of all the events that are being performed across the Oracle Primavera Cloud projects that are present in the activity sheet.

When you open an activity from the **Activity Sheets** log, the **Activity Sheet** overlay page opens.

The **Activity Sheet** overlay page displays all the activities data, in columns, such as:

- **Activity ID**
- **Activity Name**
- **Activity % Complete**
- **Activity Status**
- **Activity Type**

The **Activity Sheet** overlay page displays the general information about an activity in the **General** tab (right pane), categorized by blocks, such as:

- **WBS Attributes**
 - WBS Code (uuu_P6WBSCode): WBS Code associated to each Activity.
 - WBS Name (uuu_P6WBSName): WBS Name associated to each Activity.
 - WBS Path (uuu_P6WBSPath): WBS Path associated to each Activity.

- Work Package (uuu_P6WorkPackage): This is the leaf node for every WBS structure and will have the values Yes/No.
- **Activity Attributes (General)**
 - Activity ID (uuu_P6ActivityId)
 - Activity Name (uuu_P6ActivityName)
 - Status (uuu_P6ActivityStatus)
 - Type (uuu_P6ActivityType)
 - Performance % Complete (uuu_P6PercentComplete)
- **Activity Attributes (Scheduling)**
 - Planned Start (uuu_P6PlannedStart)
 - Planned Finish (uuu_P6ActualFinish)
 - Planned Duration (uuu_P6Planned)
 - Actual Start (uuu_P6ActualStart)
 - Actual Finish (uuu_P6ActualFinish)
 - Actual Duration (uuu_P6ActualDuration)
 - Remaining Duration (uuu_P6RemainingDuration)
 - At Completion Duration (uuu_P6AtCompletionDuration)

You can use this activity data in a business process using **Activity Picker**, and the updated dates can be reverse auto-populated into the activity sheet. The activity sheet data can be sent back to Oracle Primavera Cloud using the export synchronization selected in Gateway integration settings.

Activity Mappings in Gateway

The following activity attributes are displayed in the log:

Oracle Primavera Cloud	Gateway	Unifier
activityPercentComplete	PercentComplete	uuu_P6PercentComplete
actualDuration	ActualDuration	uuu_P6ActualDuration
actualFinishDate	ActualFinishDate	uuu_P6ActualFinish
actualStartDate	ActualStartDate	uuu_P6ActualStart
atCompletionDuration	AtCompletionDuration	uuu_P6AtCompletionDuration
finishDate	FinishDate	uuu_P6Finish
activityCode	Id	uuu_P6ActivityId
activityName	Name	uuu_P6ActivityName
plannedDuration	PlannedDuration	uuu_P6PlannedDuration
plannedFinishDate	PlannedFinishDate	uuu_P6PlannedFinish
plannedStartDate	PlannedStartDate	uuu_P6PlannedStart
projectId	ProjectId	uuu_int_p6_project_id
remainingDuration	RemainingDuration	uuu_P6RemainingDuration
remainingFinishDate	RemainingFinishDate	uuu_P6RemainingEarlyFinish
remainingStartDate	RemainingStartDate	uuu_P6RemainingEarlyStart
startDate	StartDate	uuu_P6Start
activityStatus	Status	uuu_P6ActivityStatus

Oracle Primavera Cloud	Gateway	Unifier
activityType	Type	uuu_P6Activitytype
wbsCode	WBSCode	uuu_P6WBSCode
wbsId	WBSObjectId	uuu_P6WBSElementId
wbsPath	WBSPath	uuu_P6WBSPath
wbsName	WBSName	uuu_P6WBSName

The **WBS Sheet** will be created if the **WBS Structure** field mapping template is defined in Gateway. The **WBS Sheet** shows the WBS hierarchy, or structure, associated with the activities.

Note

OOTB synchronization does not provide field mappings for the **WBS Structure**. You must define the WBS structure mapping in Gateway for the WBS sheet that has been created in Unifier.

The **WBS Sheet** lists the WBS structure. All the cost and units columns will be zeros (0s) in Unifier 20.7 and later. All the predefined eight columns are displayed by default, with cost and unit values as zeros (0s).

The **System Data Elements** that are available in the **WBS Attribute** Form are not editable, but you can add additional data elements in the **WBS Attribute** Form.

You can add additional columns based on type directly as a cell entry, formula, or from:

- WBS Custom Attributes
- Business Processes
- Activity Sheet

Note

For duration based schedules, the **WBS Picker** does not show the associated **WBS Codes** in the business processes when the **EVA Sheet** is not created.

Activity Picker in Business Process or Shells

When an Activity Picker that is based on P6 Activity Picker data definition is placed on a business process upper form or detail form, or in the Shell Attribute Form in uDesigner, you can use that picker to select activities from the **Activity Sheet** located within that shell.

When you select an activity by way of a P6 Activity Picker, the system displays the **Activity Picker** log, as defined in uDesigner. The **Activity Picker** log lists all the Oracle Primavera Cloud Projects in the **Projects** drop-down, where you can select the current schedule and select the activity sheet. After selecting the activity sheet, the hierarchy (similar to the one used in the activity sheet) will be displayed.

The list of activities from the picker is filtered according to the query conditions defined within the Data Picker configuration, in Admin mode.

The data elements that can be set to auto-populate from a picker will be populated from the selected activity in the picker.

The data elements that have been set to reverse auto-populate (RAP) to Oracle Primavera Cloud will RAP according to the RAP conditions, in uDesigner. If no RAP conditions are defined, the data elements that have been set to reverse auto-populate (RAP) to Oracle Primavera Cloud will RAP when the record is moved to next step (for Workflow BPs) and when the record is marked as: 'Finish Edited' (for Non-Workflow BPs).

The linked data elements using an activity picker get updated when the activity gets updated by way of integration.

The auto-population will take place if the picker is set to auto-populate from another picker, and also is set as a source to auto-populate into other data elements.

If a picked activity is deleted, the system will remove the picker value, and the data elements that hold auto-populated from that activity (the deleted activity) continue to display their values. In such scenario, the system will remove the data elements that hold dynamically linked values.

P6 Activity Picker in Business Process or Shell Details

When you access a business process form, or a Shell Attribute Form, with activity sheets (both system activity sheet or manual activity sheets) and create a new form, the **Create New <form>** window opens. In this window, you can go to the **P6 Activity Picker** field, select **Activity Sheets**, and open the **P6 Activity Picker** window.

In the **P6 Activity Picker** window, the **Activity Sheets** field drop-down displays a list of all the active activity sheets, in alphabetical order. In the case where the multiple source projects are integrated with System Activity Sheet, the Activity Sheets drop-down shows the source projects prefixed with "System Activity Sheet," for example: System Activity Sheet - <Source Project1>, System Activity Sheet - <Source Project2>, and so forth. You can switch between the activity sheets and select a specific activity sheet to populate the information on to the business process or attribute forms.

The activities are filtered according to the query conditions defined within the Data Picker configuration in uDesigner where **P6 Activity Picker** field is added.

To access the Data Picker configuration in uDesigner:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **uDesigner**, and then select either **Business Processes** or **Shell Manager**.
3. Open the applicable BP or Shell Attribute Form where the **P6 Activity Picker** field is added.

The form fields that have been set to auto-populate from **P6 Activity Picker** field will get auto-populate from the selected activity attributes.

The form fields that have been set to Reverse Auto-Populate (RAP) to the Activity Sheet will get Reverse auto-populated from the conditions specified in uDesigner or the latest data will be reverse auto-populated (updated) back to the Activity Sheet when "**Send**" in the Workflow, or "**Submit**" in the Non-workflow BP, is used. Similarly, when the user selects "**Save**" in the shell properties, the updated date will be reverse auto-populated (RAP) back to the activity sheet.

The form data elements that are linked to the attributes form from a **P6 Activity Picker** field will get updated as the P6 activity data gets updated by way of integration.

Auto-population will complete if the **P6 Activity Picker** field is set to auto-populate from another picker, and the **P6 Activity Picker** field is also selected as a source to auto-populate other data elements on the form.

If you delete a selected (picked) activity sheet, Unifier clears the picker value for the existing records, but the auto-populated values will remain as they are. Similarly, the system clears the linked data elements if the selected (picked) activity sheet no longer exists.

Additional Information about P6 Activity Picker

- The P6 Activity Picker is supported when creating records through CSV import and RESTful services.
- When a P6/Oracle Primavera Cloud project is associated with the System Activity Sheet, the CSV template, or the RESTful call, accepts the following format for P6 Activity Picker value: <P6/Oracle Primavera Cloud Project ID> ~~ <Activity ID>
- If the project has manual activity sheets defined, the following format is allowed in the input CSV file and RESTful services to select an Activity: <Activity sheet Name> ~~ <Activity ID>

Activity Picker

The activity picker in business process and attribute forms allows you to choose an activity from a selected project. The activity picker supports reverse auto-population for multiple P6 Projects.

Selecting a project:

1. In the **View** drop-down list, select a project. If there are a large number of projects, use **Search** or **Find on Page** to locate the project.
2. Highlight a project on the **Activity Picker** log, and click **Select**.

WBS Picker in a Business Process

The **WBS Picker** field in a business process form has an additional toolbar option (Source) that shows the source value as either P6, Primavera Cloud, or Custom. The Source field drop-down will display "Custom" by default and all the WBS Codes from the Project WBS Sheet will be shown.

You can switch between different sources (P6 or Oracle Primavera Cloud and Custom) if your project has both Project WBS Sheet and System WBS Sheet. The WBS Codes created from the selected source will be shown in the Picker window.

To select the code, the WBS Code shows the entire path.

You can select a unique WBS Code to add a cost transaction.

Earned Value Manager

The **Earned Value Manager** enables you to do the following by using one of the nodes.

- Perform earned value analysis corresponding to the activity sheet (System or Manual) in a shell.
- Run the earned value analysis of cost loaded projects directly.
- Generate reports on EVA scenarios.

The **Earned Value Manager** module contains the following nodes:

- **Earned Value Analysis**
- **Earned Value Analysis Report**

To access the Earned Value Manager module:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**.

The following provides details about each node.

Earned Value Analysis

To access Earned Value Analysis:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis**.

The **Earned Value Analysis** node is based on the scheduling set of data (activities and rates) imported from P6 through integration. The **Earned Value Analysis** node allows you to:

- Perform earned value analysis corresponding to the activity sheet (System or Manual) in a shell.
- Run the earned value analysis of cost loaded projects directly.

Note

For resource-loaded projects, you must calculate resource and role rates before analyzing earned value and other matrices.

Planned Value (PV), Actual Value (AC), and Earned Value (EV) are required to calculate variances, indexes, and at completion project values. Unifier performs all calculations in the activity sheet (System or Manual) and rolls up the values to the Earned Value Analysis scenario. The values corresponding to each project, WBS (Work Breakdown Structure) or CBS (Cost Breakdown Structure) are used to plot different graphs, thus providing a visual way to determine the health of projects, and Forecast future outcomes based on the performance indexes.

Earned Value metrics can be categorized as under:

Group	Detail
Basic	• Planned Value (PV) • Actual Cost (AC) • Earned Value (EV)
Variances	• Cost Variance (CV) • Schedule Variance (SV)
Indexes	• Schedule Performance Index (SPI) • Cost Performance Index (CPI) • Cost Schedule Index (CSI)

Group	Detail
Forecast	• Estimate to Complete (ETC) • Estimate at Completion (EAC) • To Complete Performance Index (TCPI) by EAC or BAC

Earned Value Analysis Log

The **Earned Value Analysis** log lists the earned value analysis.

To access the **Earned Value Analysis** log:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis**.

Note

The location may differ in your implementation based on the Project/Shell **User Mode Navigator** configuration.

You can use the **Earned Value Analysis** log to:

- See a list of analysis.
- Review the following information (on the right pane of the log) about a selected analysis:
 - Preview
 - General
 - Properties
 - Schedule
 - History

The **Earned Value Analysis** log has the following toolbar options:

- **Create** See [Creating an Earned Value Analysis Sheet](#).
- **Data Refresh**
Use this option to manually update the summarized values retrieved from the shell activity sheet (System or Manual). The values in the scenario are not updated automatically if there are changes in the associated activity sheet (System or Manual).

When you perform data refresh, the system updates the summary table spread data which will appear after the most recent data date for each project.

The Historical data will not be refreshed when you select **Data Refresh** in an existing EVA Sheet.
- **Delete**
Use this option to delete the analysis.

The **Earned Value Analysis** log has the following columns:

- **Name**

- **Description**
- **Activity Sheet**
- **Cost Sheet Column**
- **Graph Type**
- **Performance Measurement Technique**
- **Created By**
- **Created Date**
- **Last Refreshed**
- **Last Modified**

The **Earned Value Analysis** log lists the analysis and each analysis has a *gear menu* () that can be used to:

- **Open**
To open and view the select EVA.
- **Open Grid Indicators**
To open the **Grid Performance Indicators** window and color-code the grid values corresponding to the variances and indexes. Depending on the options that you have selected, you can define the range to color-code Project, WBS, or CBS performances. The settings will be applied to all the sheets in the log. Currently, there is only one EVA sheet and color-code settings apply only to the existing sheet.

This option is available to all users who have the **Create** permission.

The **Grid Performance Indicator** window has the following toolbar options:

- **Add:** To add a new color indicator.
- **Find on page**
- **Save**
- **Cancel**

The **Grid Performance Indicator** window has the following columns:

Error (indicator labeled with an **x** icon)

- **No.**
- **EV Metrics:** This is a value selected for the Select Metrics drop-down field. It allows you to select the metrics that you want to color-code. There are no restrictions on the number of scenarios that you can create. The following options are available when you double-click in the cell and activate the drop-down field:
 - * **Schedule Variance**
 - * **Cost Variance**
 - * **Variance at Completion**
 - * **Cost Performance Index**
 - * **Schedule Performance Index**
 - * **Index**
 - * **Cost Schedule Index**
 - * **TCPI (EAC)**
 - * **TCPI (BAC)**

- **Condition:** This enables you to select the following conditions or values for users who can create criteria for color-coding (double-click in the cell to activate the drop-down field):

- * equals
- * greater than
- * greater than or equals
- * less than
- * less than or equals
- * between

To prevent overlapping of conditions or values, the following priority order is used:

Equals will override any other defined condition.

Between will override any other defined condition, except equals.

In case of less than and less than or equals, the lower value will override the higher value.

In case of greater than and greater than or equals, the higher value will override the lower value.

In case of conflict between a value which comes under less than/less than or equals and greater than or greater than or equals, the system displays the message: Overlap in the conditions defined.

- **Text box:** This field (Value 1 and Value 2) can be a single text box or two text boxes (condition = between), depending on the condition selected.
- **Color:** This is a drop-down field that allows you to select the color corresponding to the criteria that you have created. The following are the values (double-click in the cell to activate the drop-down field):
 - * Black
 - * Red
 - * Purple
 - * Orange
 - * Yellow
 - * Green
 - * Blue

The *gear menu* () **Delete** option enables you to delete the color indicators.

- **Open Performance % Completion**
To open and view the historical performance percentage completion values of a project activities against data dates. The system uses the values to calculate earned value metrics.
- **Delete**
To delete the analysis.

The **Earned Value Analysis** log displays the analysis properties on the right pane within the following tabs:

- **Preview**
- **General**

- **Properties**
- **Schedule**
- **History**

 Tip

Select the expand icon, in the right pane, to better view the tab details.

The following explains each tab in detail.

Preview Tab

The **Preview** tab enables you to preview the earned value analysis for the P6 projects (cost loaded and resource loaded) in the activity sheet (System or Manual) without opening the Earned Value Analysis sheet.

- The upper section in the tab displays a graph with consolidated information of PV and AC across data dates. A vertical blue bar represents the last data date.
- The lower section shows the Summary Table with columns displaying EV metrics and derived values, for projects satisfying the last data date:
 - BAC, EAC, PV, EV, AC, ETC, RC, CV, SV, VAC, CPI, SPI, CSI, TCPI(EAC), TCPI(BAC).

The lower section (**Cumulative Values and Indices**) is also referred to as the EV analysis sheet columns. When you open an EV analysis sheet from the Earned Value Analysis log window, the window that opens has both an upper and lower screens which display the information that you could see in the **Preview** tab.

General Tab

The **Preview** tab enables you to enter details, export details as template, and import data. To populate the fields in the **General** tab, you can export a template (use the export icon), enter the values in the exported template, ensuring that all columns, or conditions, are completed or met, save the template, and import the template back to Unifier.

Properties Tab

The **Properties** tab contains the following fields:

- **Name:** (Read-only) This field is populated with the value that you entered when you created the earned value scenario.
- **Description:** (Optional) Enter an applicable description.
- **Activity Sheet:** (Read-only) This field is populated with the value that you entered when you created the earned value scenario.
- **Graph Type:** Select the applicable graph to display, **Data Date Based** or **Period Based**.
- **Progress Measurement Technique:** (Read-only) This field is populated with the value that you entered when you created the earned value scenario.

- **Template ID:** Select the applicable ID, 1 through 6. The Template ID is a tag assigned by you when you add earned value analysis (EVA) data to the Cost or WBS sheet. It ensures that you can reference the selected EVA data elsewhere within the system.
- **Cost Sheet Column:** (Optional) Select the applicable Single or Logical Source. This field remains editable so that you can update the source for the Earned Value Analysis. In the EVA Sheet, the **Actuals** amount will be rolled up by associated WBS when you select a new Cost-type BP (CBS or WBS) column as the Cost Sheet Column source. You can use filter to see the **Actuals** associated with the selected WBS codes.

The **Data Date** is important in calculations because the percentage of performance completed in earned value is calculated up to that date. If you have **Actuals** after that **Data Date** that show up in calculations, the Cost Performance Index (CPI) will be incorrect.

Note

The logical sources will show the entire cost data regardless of the data date.

If a business process is configured and selected for the Cost Sheet Column field, the **Technique for computing estimate to complete (ETC)** block appears below the Cost Sheet Column field. This block lets you select the appropriate ETC calculation method.

Schedule Tab

The **Schedule** tab enables you to see the frequency for updating the data (**Data Refresh**). The **Schedule** tab is consistent with the **Schedule** tab in other EVM-related places.

In the **Frequency** drop-down list, select from **Daily**, **Weekly**, **Monthly**, or **Quarterly** options, select start and end dates, and select **Save**.

Select **None** in the **Frequency** field to discontinue the automatic refresh of the earned value analysis sheet.

History Tab

The **History** tab enables you to see the following information about the past events related to the activity sheet (System or Manual):

- **Action**
- **Requestor**
- **Initiated On**
- **Start Date**
- **End Date**
- **Status**

The **History** tab is similar to the **History** tab in other EVM-related places.

- The grid displays the details of scheduled refreshes only.
- The columns list the action taken (data refresh only), the name of the user who initiated the scheduled refresh, date and time the scheduled job is initiated, start and end dates for each refresh job, and the status of the refresh process (**Completed**, **In Progress**, or **Failed**).

- Select an item to view details in the History Details section below. Select **Refresh** to refresh the status of an ongoing job.

Creating an Earned Value Analysis Sheet

In the **Earned Value Analysis** log, use the **Create** option to create an EVA sheet by following the details below:

1. Select **Create** to open the **New Earned Value Analysis** window.
2. In the **Name** field, enter a name.
3. In the **Description** field add a description (optional).
4. From the **Activity Sheet** drop-down select an activity sheet (System or Manual).
5. From the **Graph Type** drop-down select one of the following sources:
 - **Data Date Based**
 - **Period Based**
6. From the **Progress Measurement Technique** drop-down select one of the following sources:
 - **Cost Based**
 - **Unit Based**
7. From the **Template Id** drop-down select one of the Earned Value Analysis (1 through 6).
8. From the **Cost Sheet Column** drop-down select a cost sheet column.
9. Select **Save** to save the newly created EVA sheet.

You can create multiple EVA scenarios with different properties, performance indicator settings, and details in general tab. Each EVA will have a different PPC for the activities under the project. This will enable you to prepare reports, and see the trend depending on their preferences. You are also able to select the EVA sheet from the rolled up data in Cost Sheet.

Note

Except the grid performance indicator, if you select any other action, the system displays the alert asking you to select 1 record.

Earned Value Analysis Sheet

To access the EVA sheet:

1. Go to the **Earned Value Analysis** log.
2. Select your sheet.
3. Select the *gear menu* () and select **Open**. The **Earned Value Analysis** sheet opens in new window. Alternatively, you can double-click the sheet to open the sheet window.

The upper section of the EVA sheet is fixed and viewed across all tabs. It includes the toolbar functions and a dynamic data table. The following explains the elements.

Option	Description
Filter 	To adjust the view for particular information.
Print 	To print the sheet.
Data Date	This field has a drop-down menu with historical dates. This is available for graph based on Data Date .
Projects	This field enables you to open the Project Picker window and select a project. The information is constrained with value in Data Date field. The Project Picker window enables you to Find on Page .
Period	The drop-down list with weekly, monthly, quarterly, half a year, yearly, and if applicable, financial period that has been selected in the shell. This is available for graph based on Period.
WBS or CBS drop-down	This toggle option is followed by the corresponding picker in the adjacent field (WBS Code or CBS Code drop-down). The picker user interface has Expand , Collapse , and Find on Page . the values are constrained by selections in the previous fields. Select the WBS graph, and select WBS picker to filter by the OBS. The WBS picker will also display the WBS codes from the Unifier project, if the project is selected from the Projects Picker.
WBS Code or CBS Code drop-down	Select to open and select from WBS Picker or CBS Picker windows, respectively.
Cost & Rate Type	Displays all rate- and cost-type breakdowns available. It enables you to select a rate-type or a cost-type grouping. After you select the breakdown rows to filter, all the costs will be displayed based on breakdowns that you had selected.
Apply	Select to apply selections in the drop-down fields.
Reset	Select this to remove any zoom or filters applied via the curve picker.

The middle section of the EVA sheet contains a *Dynamic Data Table*.

The headings for the dynamic data table are as follows, depending on the graph type:

- **Project**
 - **All** is displayed when all projects have the same data date.
 - **All (Filtered)** is displayed when there are projects with differing data dates, and projects with the selected data date are filtered in the view.
- **WBS**
Displays the calculated values for the point plotted in the graph.
- **Cost & Rate Type**
Displays the cost and rate types in the graph.

The other headings may include:

- **Date**
- Related EV metrics labels based on the tab. For example, in the Cumulative tab, the columns show PV, EV, AC, ETC, RC, CPI, and SPI.

The middle section of the EVA sheet contains the following tabs:

- **Cumulative**
- **Incremental** (only applicable to period based graph.)
- **At Completion**
- **Variance**
- **Indices**

Depending on the tab that you select, you get the pertinent graph.

Curve Picker: Filter curves you want to view by selecting or deselecting the colored boxes in the legend.

Cumulative tab	At Completion tab	Variance tab	Indices tab
 AC  EV  PV  ETC	 VAC  EAC  BAC	 CV  SV	 CPI  SPI  CSI

Unit Based

Earned Value Analysis - Graph

All the **Planned Units** and **Actual Units** will be rolled-up for **Project**, **WBS**, and **CBS** from the **Activity Sheet**. The EV value will be calculated using the following formula:

$$\text{EV Units} = \text{BAC Units} * \text{PPC}$$

Earned Value Analysis - Grid

For the Graph Type Unit based, the Grid will display units instead of costs (Planned units, Actuals Units, and so forth). The Variances, Indices, and At Completion values will also be updated based on the values.

Earned Value Analysis - Top bar

For the Graph Type Unit based, the bar will display units instead of costs (Planned units, Actuals Units, and so forth). The Variances, Indices, and At Completion values will also be updated based on the values.

Remaining Cost which includes Remaining Cost/Units

Cost Sheet

After you create multiple EVA graphs, the cost sheet drop-down menu displays all the cost-based graphs.

Roll up Actuals to EVA

The **Amount** and the **uuu_quantity** fields are going to roll up to the WBS Sheet. They will be used to feed into the **Actuals** in the EVM sheet. Unlike the existing column in the Cost Sheet that creates a new row in the EVM sheet, the new BP will roll up to the WBS and CBS for a P6 project. Since Unifier captures units in the EVM, you can add **uuu_quantity** and have the units roll up to the EVM sheet.

Note

The Unifier Actuals that have been assigned to any completed activity (with the **Effective Date** before **Activity Finish Date**) will not roll up to the EVA Sheet because those Unifier Actuals are considered **Historical** data.

Cost Based EVA Scenario

In the EVA Sheet, the **Actuals** amount will be rolled up by associated WBS when you select a new Cost-type BP (CBS or WBS) column as the Cost Sheet column source. You can see the **Actuals** associated with the selected WBS codes by using filtering.

When you filter by WBS codes in the EVA, the **Actuals** data will be in two separate rows (both Unifier and P6 Actuals).

By default, in the **Project** view, all the **Actuals** (including the actuals from cost sheet column source) are displayed.

The **Actuals** amount will be rolled up by associated CBS when filtered by CBS codes, in Cost-based EVA scenario. When selected filter by CBS or by P6 Projects, you can see the **Actuals** for Unifier and P6 for the filtered CBS codes, separately.

Filtering by CBS codes in EVA Sheet

The Rolled up Actual cost will be displayed in the EVA Sheet for the selected CBS codes only when there is a valid CBS-WBS combination allocated for the line item. That is to state, the Rolled up Actual cost will be displayed in the EVA Sheet for selecting any CBS assigned to receptive Activity and selecting WBS code from the same p6 project.

Filtering by WBS codes in EVA Sheet

The Rolled up Actual cost will be displayed in the EVA Sheet for the selected WBS codes even when there is an invalid CBS-WBS combination allocated for the line item. That is to state, the Rolled up Actual cost will be displayed in the EVA Sheet for selecting any CBS assigned to receptive Activity and selecting WBS code from the same, or different, p6 project.

Units Based EVA Scenario

The WBS Sheet column field is available in unit based EVA scenario as the Actual source. The list of sources available are all WBS Sheet columns which are of type SYS BP Decimal Amount. You can select any of the new CBS- or WBS-type BP columns (which are of SYS BP Decimal Amount added in WBS Sheet as WBS Sheet column source).

The Formula columns, which are based on CBS- or WBS-type BP of SYS BP Decimal Amount, are available to select.

By default, the Actual Units (per project) include the quantity (rolled up from new Cost-type BP) when the Actual Units are selected as WBS Sheet column source.

The Actual Units (uuu_quantity) by associated WBS codes are displayed when you filter the WBS codes.

Similarly, when CBS codes are filtered, the associated Actual Units are displayed. The same is applicable when other Cost-type BPs are also selected as the Cost Sheet column source. The graph includes the Actual Units from WBS Sheet column source.

Cumulative Tab

Like the **Preview** tab in the log, the **Cumulative** tab displays an upper graph and a bottom summarized table in the **Cumulative Values and Indices** section. It shows data as of the last **Data Date**.

Note

All other tabs display a graph only.

As you move the cursor across the curves in the graph, a flagged indicator displays the curves, dates and values at the selected point in a curve. The indicator is color-coded for specific curves as per the legend. The tooltips provide the expanded form of acronyms. The last data date is represented by a vertical blue bar. If available, data dates preceding the last data date are displayed. After the last data date, weekly intervals are indicated along the X-axis for the duration of a year.

The zoom control is enabled by using the mouse wheel; values on X- and Y-axes remain static. You can also drag the zoomed area along the X-axis; the X-axis intervals remain constant.

The **Cumulative Values and Indices** section toolbar has **Export**, **Find on Page**, and a toggle **Expand** or **Collapse** buttons. While the columns present values for earned value metrics and derivatives, the rows list the projects for the selected data date in separate rows.

Depending on the selection that you have made in the filter, the grid that is displayed follows these scenarios:

Scenario One:

If you select Project with CBS filter:

The Summary (filtered) shows the actuals in the activity sheet (System or Manual) that corresponds to the P6 project and the CBS selected from the filter.

The Summary (P6) displays the actuals that corresponds to CBS across all the P6 projects (from the activity sheet (System or Manual)) until the Data Date that has been set or selected in the filter.

The Summary (Unifier & P6) displays consolidated amount from actuals (summary p6) and the sum of cost sheet actuals for CBS corresponding to the column selected during the EV creation until the data date selected in the filter.

Scenario Two:

If you select Project with WBS filter:

No additional summary row.

Period based graph

EVA Graph (Cumulative, At Completion, Indices & Variance)

If a user selects Graph Type as "Period based" for a particular Earned Value analysis scenario then:

The data date drop-down does not appear in the graph. Instead, a new drop-down is displayed (Periods) with the following options:

- Weekly
- Monthly
- Quarterly

- Yearly
- <Financial period name> selected in shell details tab (if applicable)

If the graph type is Periods, you can select multiple projects with same or different data date. Any Actual value of other projects, after the least data date among the projects, will be presented as Forecast.

For the existing users, when plotting the graph based on periods, the old financial period data, using the current baseline, is displayed.

Note

The data for each project is locked until the project data date.

Also, the data which is being displayed in the graph will be updated according to the financial period that is selected.

Note

The graph shows weekly data points on x-axis and filters the project with same data date.

If you have selected the period type as financial period, the data for all, or filtered, projects will be consolidated and plotted in the graph. The Data points on the x-axis will be the period end date.

The following two scenarios explain the results of your selections:

Scenario One:

If the user selected weekly, monthly, quarterly, or yearly from the drop-down menu, the start date of the first sub period will be the least project start date across all projects. The last sub period will be determined based on the last data date across all projects. In other words, the end date of last sub period should be greater than the last data date across all projects.

Scenario Two:

If the user has selected a financial period defined under Standards & Libraries, the graph will only display the data between the first sub period and the last sub period. Everything else will be filtered out of the graph.

EV analysis sheet (Cumulative Values and Indices section) columns

- Budget at Completion (**BAC**)
- Estimate at Completion (**EAC**)
- Planned Value (**PV**)
- Earned Value (**EV**)
- Actual Costs/Actual Units (**AC/AU**)
- Estimated Time to Complete (**ETC**)
- Real Costs/Real Units (**RC/RU**)
- Cost Variance (**CV**)

- Schedule Variance (**SV**)
- Variance At Completion (**VAC**)
- Cost Performance Index (**CPI**)
- Schedule Performance Index (**SPI**)
- Cost Schedule Performance Index (**CSI**)
- To Complete Performance Index (TCPI) - Estimate at Completion (EAC) (**TCPI(EAC)**)
- To Complete Performance Index (TCPI) - Budget at Completion (BAC) (**TCPI(BAC)**)

Note

If the spread data displays incorrectly in the EV analysis sheet, make sure that P6 is configured to use the Planned values with Current Dates option under Earned Value Calculation.

Incremental Tab

In Unifier, you can generate the earned value analysis graph based on the data date corresponding to a P6 Project. The graph shows the EV and Actuals data from project start date until the most recent data date, and every data date which lies in between.

You can also plot the graph based on periods.

EVA Graph (Incremental)

If you select Graph Type as "Period based" (for a particular Earned Value analysis scenario), an additional tab for incremental graph will be displayed along with other graphs. The tab for Incremental graph will show the incremental curves for planned value, earned value, actual cost, and forecast for the filters selected in the pickers. In other words, each X-axis data point shows the consolidate data since last data point. The Y-axis displays the amount (in hundreds, thousands, millions, and so on), and the value is determined by the graph dynamically showing the best possible representation based on the data available. The maximum and minimum values are determined by the maximum or minimum values as explained above.

Prerequisites

You must have at least one Financial Period defined under Standards & Libraries (go to the Company Workspace tab, and switch to Admin mode; in the left Navigator, select Standards & Libraries, and then select Period Structure).

You must have selected the relevant financial period in the shell options (go to the project/shell page; in the left Navigator, select Home; select My Dashboard, select Details, select the Options tab, update the Financial Period).

After you have performed the steps above, you will be able to select the Financial Period from a newly created drop down "Period" in EVA graph if they select graph type as "Period based" screen as follows:

Create

Select Create, and select the Graph type.

Properties

In the Properties tab, select the Graph Type drop-down menu, and select your option:

- **Data Date Based**
Enables you to continue using the data date to filter projects.
- **Period Based**
Enables you to see the graph in Earned Value Analysis based on the financial period selected in the shell details tab (weekly, monthly, quarterly, or yearly).

EVA Graph (Cumulative, At Completion, Indices & Variance)

If you select the Graph Type as "Period based" for a particular Earned Value Analysis scenario, then:

- Except a custom financial period, the x-axis points for any period will be the period start date.
 - The start point will be the earliest project start date.
 - The end point will be the farthest project end date.
- For custom financial period, the start and end points are period start and end points.
- Data date drop-down menu will not appear in the graph. Instead, the Periods drop-down menu is displayed that contains the following options:
 - Weekly
 - Monthly
 - Quarterly
 - Yearly
 - <Financial period name> selected in shell details tab (if applicable)
- If the graph type is Periods, you can select multiple projects with the same or different data date. The Actual value of other projects (after the least data date among the projects) will be treated as Forecast.
- For existing users, when plotting the graph based on periods. The old financial period data is generated through using the current baseline. The system freezes the data for each project until the project data date. Also, the data which is being displayed in the graph will be updated according to the financial period selected. The graph shows weekly data points on x-axis, and the graph filters the project with same data date.

If you select the period type as financial period, the data for all or filtered projects will be consolidated and plotted in the graph. Data points on the x-axis will be the period end date. The following two scenarios explain your selections:

Scenario one

If you have selected weekly, monthly, quarterly, or yearly from the drop-down menu, the start date of the first sub period will be the least project start date across all projects. Last sub period will be determined based on the last data date across all projects. In other words, the end date of last sub period should be greater than the last data date across all projects.

Scenario two

If you have selected a financial period define under Standards & Libraries, the graph will only display the data between the first sub period and last sub period. Everything else will be filtered out of the graph.

EVA Graph (Incremental)

If you select the Graph Type as "Period based" for a particular Earned Value Analysis scenario, an additional tab for Incremental graph is displayed along with the other graphs. A new tab for Incremental graph displays the incremental curves for planned value, earned value, actual

cost, and forecast for the filters selected in the pickers. In other words, each x-axis data point displays the consolidate data since last data point. The y-axis displays the amount (in hundreds, thousands, millions, and so on), and the amount is determined by the graph dynamically to show the best possible representation based on the data available. The maximum and minimum value is determined by the maximum or minimum values as explained above.

At Completion Tab

View VAC, EAC, and BAC curves in the graph. Use the graph features as in the **Cumulative** tab.

Variance Tab

View CV and SV curves in the graph. Use the graph features as in the **Cumulative** tab.

Indices Tab

View CPI, SPI, and CSI curves in the graph. Use the graph features as in the **Cumulative** tab.

Performance Percentage Completion Sheet

Select the corresponding button to open the **Performance Percentage Completion** sheet overlay in the EV Analysis log.

During each synchronization, the performance percentage completion value of an activity gets updated from P6. Unifier stores the values against corresponding data dates, which are then used to calculate earned value metrics.

Note

The functionality is only applicable to the current schedule of a project.

Similar to performing Earned Value (EV) analysis on a System Activity Sheet, you can select active manual activity sheets and perform Earned Value analysis on those sheets; however, the following exception will apply when performing Earned Value analysis on the active manual activity sheets:

- The Performance % Complete option is not required, or available, for EV analysis of active manual activity sheets.
- The Cost Sheet columns for CBS type of BPs are not required, or available, for EV analysis of active manual activity sheets.
- After you create an EV analysis sheet (see the [Preview Tab](#)) for active manual activity sheets, if you change the status of any of the activity sheets to inactive, you still can update the data through data refresh function, in the Schedule tab.
- The Name column, in the Project picker window, displays the name of the manual activity sheets.
- The WBS codes for the manual activity sheets appear in the WBS picker window, and the codes are not suffixed with any text.

When performing Earned Value analysis on the active manual activity sheets, you can get information about the:

- Actuals within a created cost-based graph, where the costs that correspond to all of the EV metrics are included.
- Actuals from the WBS sheet within a created unit-based graph, where the units that correspond to all the EV metrics are included.
- WBS codes in the WBS sheet for the respective Manual Activity Sheet in the EV analysis graph, in the WBS code picker.

Performance Percentage Completion Sheet - Toolbar

The following explains the toolbar options, columns, and rows:

- **Actions**
 - **Export CSV**
 - **Update Data**
To update historical performance percent completion for the activity against any date, excluding Data Date coming through P6.
 - * **Export CSV Template**
 - * **Import CSV**
Columns imported through **Import CSV** will be marked with an "*" icon.
- **Refresh**: Select **Refresh** to update the performance percentage completion values from the latest synchronization.
- **Find on Page**
- **Projects** drop-down: Select a project to view the performance percentage completion for each activity against data dates.

Columns

The left pane of the grid displays **Activity Id**, and **Activity Name**. The right pane displays a series of data dates based on the frequency of updates in P6.

Rows

The left pane of the grid displays the activities of the project selected in the **Projects** drop-down. The right pane displays % values against data dates for each activity.

Roll Up Earned Value Analysis to Cost Sheet

The **Column Properties** window enables you to select your cost sheets.

The following table explains the fields and options in the **Column Properties** window:

Field	Description
Name	Sheet name.
Datasource	The name of the source.
Element	To select the data element.

Field	Description
Entry Method	The options and sub-options are: Manual Entry • Direct entry into cell • Line item content Sheet • Type (See below for details) • Name (See below for details) • Column (See below for details) Formula
Data Format	The options are: • Currency • Percentage • Decimal
Display Mode	The options are: • Show • Hide
Total	The options are: • Blank • Sum of All Rows • Use Formula Definition
Column Position After	To indicate where the column must be positioned
Delete	To delete the column properties.
OK	To accept changes.
Cancel	To cancel changes.

The **Type** field enables you to select the following:

- Worksheet
- Earned Value Analysis (EVA)
- Activity Sheet

The **Name** field displays the name of the Earned Value Analysis (1 to 6).

If there is no data or sheet for that **Name** field, the value will be zero in the Cost Sheet for that column. After you refresh the EVA Sheet, the data will be rolled up to the Cost Sheet as a column.

The **Column** field enables you to select the currency and decimal fields from the Earned Value Analysis that are available to be rolled up into the Cost Sheet as a column.

Earned Value Management (EVM)

- pv (Planned Value - cost)
- ev (Earned Value - cost)
- ac (Actual Cost - cost)
- cv (Cost Variance - cost)
- sv (Schedule Variance - cost)
- bac (Budget At Completion - cost)
- eac (Estimate at Completion - cost)

- vac (Variance at Completion - cost)
- etc (Estimate to Complete - cost)
- forecast (Forecast - cost)
- remaining_cost (Remaining Cost - cost)

Note

The decimal type Data Element (DE) is available in the cost formula.

The **Column Name** field, in the **Cell Details** window, displays the DE field label in the respective Earned Value Analysis.

Note

You can have from 1 to 100 predefined cost DEs created in the Cost Sheet.

Earned Value Analysis User Defined Report (UDR)

You can create User Defined Reports (UDRs) from the data present in your Earned Value Analysis.

The Create User-defined Report window enables you to define the following fields for your UDR (template or individual reports):

- **Data Type**
- **Element**
- **Report Type**
 - **Tabular**
 - **Cross Tab**
 - **Summary**
 - **Alert**
- **Access Type**

Note

The same fields will be available for permission-based data sources.

The elements (Currency/Decimal), in OOTB Earned Value Analysis along with any user-defined column will be available as DEs for your report.

Note

Only the data elements available in the Earned Value Analysis Sheet will be available in the respective UDR.

Earned Value Analysis Report

The **Earned Value Analysis Report** sub-node enables you to access and work with the EVA reports.

To access Earned Value Analysis Report:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis Report**.

Earned Value Analysis Reports Log

The **Earned Value Analysis Reports** log enables you to create and run reports. The log contains the following toolbar options:

Field	Description
Create	This option is available for users with Create permission, at the node level. See Creating an Earned Value Analysis Report .
Delete	This option is available for users with Create permission, at the node level.
View	This option enables you to view all, create a new view, and manage views. By default, the All view is selected. To define new views, select Create New View . You can use the Manage Views option to manage the user-defined views. Note Oracle recommends that you do not define a view with no columns selected.
Edit View	To change the view of the log.
Refresh	This option enables you to refresh the report log and view the latest report definitions that have been added.
Print	This option enables you to print the report log information using the options available.
Find on Page	Enables you to conduct a text-based search for each column in the log.

The **Earned Value Analysis Reports** log contains the following columns which correspond to the fields that you have included in the report when you created one, in addition to several more fields:

- **Name**
- **Description**
- **Earned Value Analysis Scenario**
- **Report Template**
- **Owner**
- **Last Run**

The **Earned Value Analysis Reports** log contains the following tabs:

Tab	Description
General	Enables you to both view and change some of the fields in the report. When you alter report detail in the General tab, you must save or save and run the report to ensure that your changes have been applied.
Schedule	Enables you to: • Set Frequency for Scheduled Report Runs • Determine the Output Information The day value will reset to one, if you enter a numeric value that is out of range. The report will run on day twentieth of the first month of every quarter, if: • You select a day between the first and thirty-first. • You select the twentieth day of each quarter. The email subscription option enables you to control the type of email notifications that you want to receive. In the user Preferences window (in the upper-right corner, select your name, select Preferences, and then select the Email Subscription tab) you can subscribe to receive emails when reports are scheduled in the EVM reports (Results from scheduled EVA reports). This option will be available only when the Earned Value Manager module is loaded in the company. When you select the option and have a valid email address, you will receive email notification with the report attached. The format of the report is according to the format selected when the scheduled report was set to run. The email received contains the report (as an attachment, in Excel format) with the following information: • Source Name: Displays the shell name. • Report Name: Displays the EVA report name. • Description: Description provided in the EVA report properties. • Unifier Login: To go to the login page. The User Preferences Template window, Preferences tab, displays the option related to the Earned Value Report scheduled runs (Results from scheduled EVA reports option). The system uses the active user's preferences template when creating new users, as default. The other templates can be used to update preference settings for existing users.
History	Enables you to see the following information: • Run Date (the date the report was generated) • Run By (who generated the report) • Status (if the report is generated successfully)

Each report row has a *gear menu* (⚙️) that enables you to run a report or delete a report:

- **Run Report:** You must have View permission to run the report, using the *gear menu*. This option is shown when you select one report at a time. The report will be displayed using the format saved in the properties.
- **Delete:** You must have Full Access and Create permissions to use the delete option. You can select one or more reports to delete.

Creating an Earned Value Analysis Report

Select **Create** in the **Earned Value Analysis Reports** log to open the **Earned Value Analysis Report** window.

1. In the **Name** field, enter a descriptive name.
2. In the **Description** field, enter description.
3. From the **Earned Value Analysis Scenario** field, select a scenario. The drop-down menu lists all the earned value scenarios that have been defined in the project. You can only select one scenario. Also:
 - For format1 to format3, the cost-based earned value scenarios are available to select.
 - For format4 you can select a unit-based earned value scenario.
4. From the **Report Template** field, select a template from the drop-down lists all available templates:
 - a. **CONTRACT PERFORMANCE REPORT - FORMAT 1 (Based on WBS)**
Format 1 defines cost and schedule performance data by product-oriented Work Breakdown Structure (WBS).
 - b. **CONTRACT PERFORMANCE REPORT - FORMAT 2 (Based on OBS)**
Format 2 defines cost and schedule performance data by the contractor's organizational structure.
 - c. **CONTRACT PERFORMANCE REPORT - FORMAT 3 (Baseline Changes)**
Format 3 defines changes to the Performance Measurement Baseline (PMB).
 - d. **CONTRACT PERFORMANCE REPORT - FORMAT 4 (Staffing Forecasts)**
 - e. Format 4 provides staffing forecasts for correlation with the budget plans, cost, and schedule estimates.
 - f. **CONTRACT PERFORMANCE REPORT - FORMAT 5 (Analysis report)**
Format 5 is a narrative report used to provide the required analysis of data contained in Formats 1-4
5. If you want to include additional parameters in your report, select the **Set Parameters** field and proceed to select additional parameters from the options provided. When you select a period type, the system displays the last 10 periods, starting from the current period, for you to select.
6. When finished, select one of these options:
 - **Create** to create the report and run it later.
 - **Create & Run Report** to create the report and run it immediately after.

Note

The staffing numbers are rounded to the closest decimal; however, the total is calculated per actual value (the numbers before being rounded).

Record-level Permissions

The following explains the record-level permissions for Earned Value Analysis Reports.

To see the record-level permission:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis Report**.
3. In the **Earned Value Analysis Reports** log, select a record.
4. On the right pane, select **Permissions** tab.

The **Permissions** tab displays all the participants and their permission details.

To assign permissions:

1. Go to the shell tab, and switch to **User** mode.
2. In the left Navigator, select **Earned Value Manager**, and then select **Earned Value Analysis Report**.
3. In the **Earned Value Analysis Reports** log, select a record.
4. Select **Actions** drop-down menu, and select **Permissions**. The **Permissions** window opens. Alternatively, you can select the *gear menu* (⚙️) of the selected record, and select **Permissions**.

In the **Permissions** window, click **Select** for the **Add** field to open **User and Group Picker** window (if you know the name, you can enter the name in the field—type ahead). This enables you to select the user or a group of users who need permission. In this window, use the **View** field to find users or groups and follow the prompts. When finished, ensure that you select **Done**.

In the **Permissions** window, you will see the following columns:

- **Name** (locked column)
- **Company** (locked column)
- **Select All**
To select all the permission options.
- **Modify Permissions**
If selected, the **Edit Report** and **View and Run** options would also be selected.
- **Edit Report**
- **View and Run**
- **Remove**
You must save your changes before you can use the **Remove** option. The **Remove** option is not available if you are the owner of the selected record.

Assigning permissions to a single report can be done by a user who is the report owner or has full access permission.

Assigning permissions to multiple users or groups is allowed if you are the report owner, or have the required permissions, at the module level. Similar to assigning permissions on a single record, you can select multiple records from the **Earned Value Analysis Reports** log, select **Actions** drop-down menu, and select **Permissions**.

Additional information about record-level permissions:

When you assign permissions to multiple reports, you are adding new permissions.

When you select multiple reports to assign permissions, you must be the reports owner, or have full access permission for all the selected reports.

If you have view permission at module level, or can only run permissions, selecting the **Permissions** option (from the toolbar, select **Actions**, and select **Permissions**) opens the view only permission window. In this case, the columns are disabled and the **Remove** option is not available.

If you highlight, for example, the first three rows but select a permission option on the fifth row, the fifth row option will get selected and highlighted.

Earned Value Management Permissions

For Earned Value Management permissions, see Setting Up the Earned Value Management Permissions.

Earned Value Management Attributes

The following explains the Earned Value Management Attributes. For details about the data elements, refer to the *Unifier Data Reference Guide*.

Recost - Activity Attributes

By default, the **Master Rate Sheet** in the Company Workspace will be used to do the costing. You can assign a custom rate sheet at the activity sheet (System or Manual) level, or a project sheet level, and then do the re-costing. Accordingly, the price/unit from the respective sheet is used to do the re-costing.

The following logic is used to do the re-costing:

- If no rate (Price/Unit) is defined in the activity sheet (System or Manual) and no rate is defined for the resource/role, the user will see a warning included in the history and a default value of 0.
- If a rate is defined for the individual resource on an activity, the system selects the project currency and multiplies that number by the number of units to get the cost.

Only the following fields will be re-costed for baseline schedule:

Activity Attributes

- Planned Total Cost (uuu_P6PlannedTotalCost)
- Actual Total Cost (uuu_P6ActualTotalCost)

- At Completion Total Cost (uuu_P6AtCompletionTotalCost)
- Remaining Total Cost (uuu_P6RemainingTotalCost)

Assignment Attributes

- Planned Cost (uuu_P6PlannedCost)*
- Actual Cost (uuu_P6ActualCost)*
- Remaining Cost (uuu_P6RemainingCost)*
- At Completion Cost (uuu_P6AtCompletionCost)*

As part of baseline re-costing, the new planned total cost in current schedule has been updated and recalculated for all the fields that are impacted by change in baseline planned cost.

- **Spread Costing:** Applying the correct cost-applicable on that day.
- **CBS:** Unifier uses the Estimate to Completion (ETC) calculation from Project ETC Formula.
- **PV Cost:** Planned Value (PV) cost of activity in Current Schedule is Planned Cost of the same activity in baseline.

For cumulative calculation the system applies the formula on cumulative data, and similarly, does the same for incremental data.

If a project does not have a baseline schedule, the system uses the corresponding baseline values from the current schedule.

Activity Attribute	Date Element	Calculation
Planned Total Cost	uuu_P6PlannedTotalCost	Planned Total Cost is calculated by consolidating the planned cost across all assignments under an activity.
Actual Total Cost	uuu_P6ActualTotalCost	The actual total cost incurred for the activity as of the project data date. Calculated by consolidating Actual Total Cost across all assignments under an activity.
At Completion Total Cost	uuu_P6AtCompletionTotalCost	At Completion Total Cost is calculated by consolidating the at completion costs across all assignments under an activity.
Remaining Total Cost	uuu_P6RemainingTotalCost	Remaining Total Cost is calculated by consolidating the remaining costs across all assignments under an activity.
Planned Value	uuu_P6PVCost	The portion of the baseline total cost of the activity or project that is scheduled to be completed as of the project data date. Calculated as Planned Total Cost multiplied by Planned Completion of the activity at the data date. Planned Total Cost and Planned completion of the activity are calculated from project baseline.

Activity Attribute	Date Element	Calculation
Earned Value	uuu_P6EVCost	The portion of the project baseline total cost of an activity actually completed as of the project data date. Calculated as Planned Total Cost multiplied by Performance Percent Complete. The method for computing performance percent complete depends on the Earned Value technique selected for the activity's WBS. Planned Total Cost of the activity is calculated from the project baseline.
Estimate to Complete	uuu_P6ETC	The estimated cost to complete the activity is calculated as Remaining Total Cost for the activity or the Performance Factor multiplied by (Planned Total Cost minus Earned Value), depending on the Earned Value technique selected for the activity's WBS (calculated from the primary baseline). Planned Total cost is calculated from the project baseline. For CBS, project level earned value technique is used for data roll up.
Schedule Performance Index	uuu_P6SPIIndex	A measure of the work accomplished as a percentage of the work scheduled. Schedule Performance Index indicates whether you are meeting earned and planned values within your schedule. A value less than 1 indicates that less work was performed than was scheduled. Schedule Performance Index = Earned Value/Planned Value. A value less than 1 indicates that the project is behind schedule. For not started activities, SPI is 1.
Cost Performance Index	uuu_P6CPIIndex	A measure of the work accomplished as a percentage of the actual costs. Cost Performance Index (CPI) indicates whether you have spent money over the budget to date. Cost Performance Index = Earned Value/Actual Cost. A value less than 1 indicates that the actual cost has exceeded the planned value. For not started activities, CPI is 1.

Activity Attribute	Date Element	Calculation
Cost Schedule Index	uuu_CSIndex	A measure to check the overall status by combining cost & schedule. Cost Schedule Index = Schedule Performance Index * Cost Performance Index. For not started activities, CSI is 1.
Schedule Variance	uuu_P6ScheduleVariance	The measure of schedule performance on a project. A negative value indicates that less work was actually performed than was scheduled and conversely. Schedule Variance = Earned Value - Planned Value. For not started activities, SV is 0.
Cost Variance	uuu_P6CostVariance	A measure of cost performance on an activity, WBS, or project. A negative value indicates that the actual cost has exceeded the planned value. Cost Variance = Earned Value - Actual Cost. For not started activities, CV is 0.
To Complete Performance Index	uuu_P6TCPIndex	A measure of the value of the project work that is remaining. <i>To Complete Performance Index</i> (TCPI) is essentially a ratio of the remaining work to the remaining funds. It helps determine the level of performance that must be achieved on the remaining work to meet recognized business goals, such as the Budget at Completion (BAC) or the Estimate at Completion (EAC). You can set performance thresholds for calculated TCPI values to display visual indicators that help you determine whether you need to take corrective action. To Complete Performance Index = (Remaining Work) / (Remaining Funds) where the Remaining Work = Budget at Completion - Earned Value. If <i>under</i> budget, then: Remaining Funds = Budget at Completion - Actual Cost If <i>over</i> budget, then: Remaining Funds = Estimate at Completion - Actual Cost

Activity Attribute	Date Element	Calculation
Estimate at Completion	uuu_P6EACCost	The expected total cost of a schedule activity when the defined scope of work will be completed. Calculated as Actual Cost (14) + Estimate to Complete Cost (24). The method for calculating estimate to complete depends on the earned value technique selected for the activity's WBS. The estimate at completion (EAC) will help you find a new, realistic, budget to complete the project. It tells you how much you may have to spend to complete the project. The EAC can be calculated in three cases depending on the situation.
Budget at Completion	uuu_P6BAC	The planned total cost through activity completion calculated by consolidating costs across all assignments.
Variance at Completion	uuu_P6VAC	The difference between the baseline total cost and the current estimate of total cost. A negative value indicates an estimated cost overrun. Budget At Completion is calculated from the current baseline. Variance at Completion = Budget At Completion - Estimate At Completion.

Recost - Assignment Attributes

Assignment Attribute	Data Element	Calculation
Planned Cost	uuu_P6PlannedCost	Calculated at spread level. Unifier Planned Units X Price/Unit. If the rate source is Override, the system uses the rate present in the activity sheet (System or Manual) corresponding to that assignment.
Actual Cost	uuu_P6ActualCost	Calculated at spread level. Unifier Actual Units X Price/Unit. If the rate source is Override, the system uses the rate present in the activity sheet (System or Manual) corresponding to that assignment.

Assignment Attribute	Data Element	Calculation
Remaining Cost	uuu_P6RemainingCost	Calculated at spread level. Unifier Remaining Units X Price/Unit. If the rate source is Override, the system uses the rate present in the activity sheet (System or Manual) corresponding to that assignment.
At Completion Cost	uuu_P6AtCompletionCost	Calculated at spread level. Unifier At Completion Cost is the sum of actual cost and remaining cost for that assignment.

WBS Attributes

Assignment Attribute	Data Element	Calculation
WBS Code	uuu_P6WBSCode	The unique identifier of the WBS for the associated activity.
WBS Name	uuu_P6WBSName	The name of the WBS Code for the associated activity.
WBS Path	uuu_P6WBSPath	The location of the activity on the WBS hierarchy.
WBS Type		
ETC Technique	uuu_P6ETC	The field is populated with the formula used for the ETC calculation. ETC is the estimated cost to complete the activity, WBS, or project. Calculated as Remaining Total Cost for the activity or the Performance Factor multiplied by (Budget At Completion minus Earned Value), depending on the Earned Value technique selected for the activity's WBS (calculated from the primary baseline). Budget at Completion is calculated from the project baseline.

Activity Attributes (General)

Assignment Attribute	Data Element	Calculation
Activity ID	uuu_P6ActivityId	The unique identifier of the activity. To identify and track activities, P6 assigns each activity a unique Activity ID that is the result of joining the Activity ID Prefix with the Activity ID Suffix and then adding an Increment value. For example, a prefix of PROJ-A# combined with a suffix of 2500 and an Increment of 5 will yield the following activity IDs: PROJ-A#2500, PROJ-A#2505, and so on.

Assignment Attribute	Data Element	Calculation
Activity Name	uuu_P6ActivityName	The name of the activity.
Activity Status	uuu_P6ActivityStatus	The current condition of the activity. Valid values are Not Started; In Progress; and Completed.
Activity Type	uuu_P6ActivityType	Determines how duration and schedule dates are calculated for an activity. Options are: Task Dependent: Activities are scheduled using the activity calendar rather than the calendars of assigned resources. Resource Dependent: Activities are scheduled using the calendars of assigned resources. Level of Effort: Activities have a duration that is determined by its dependent activities and are typically administration type. Start or Finish Milestone: Indicates if the activity marks the beginning or end of a major stage in the project. Milestones have zero duration and no resources. WBS Summary: Activities that are used to aggregate date, duration, and percent complete values for a group of activities that share a common WBS code level.
Activity % Complete	uuu_P6PercentComplete	An activity level setting in P6 used to update the amount of work completed on an activity. Use one of 3 options for identifying Activity Percent Complete: Duration % Complete: Used to report progress based on Remaining Duration: $[(\text{Original Duration} - \text{Remaining Duration}) / \text{Original Duration}] * 100$. Units % Complete: Used to report progress based upon actual work performed and remaining units to complete: $(\text{Actual Units} / \text{At Completion Units}) * 100$. Physical % Complete: Used to progress based on personal judgment.
CBS Code	bitemID	The cost code in Unifier to which you can link an activity, assignment, or expense.

Assignment Attribute	Data Element	Calculation
Performance % Complete	uuu_P6Performance%Complete	The percentage of the activity or project planned work that is currently complete. Performance % Complete is used to calculate earned value. It can be based on the technique for computing earned-value percent complete for the activity's WBS - for example, the activity percent complete, 0/100 rule, 50/50 rule, and so on.

Activity Attributes (Scheduling)

Assignment Attribute	Data Element	Calculation
Planned Start	uuu_P6PlannedStart	The date the activity is scheduled to start.
Planned Finish	uuu_P6PlannedFinish	The date the activity is scheduled to finish if the activity has not started.
Planned Duration	uuu_P6PlannedDuration	The expected amount of time required to complete an activity. The planned working time is calculated in P6 using the activity's calendar. The duration is measured from the activity's planned start date to its planned finish date.
Start	uuu_P6Start	Start date is equal to the early start when an activity has no progress. When the activity is in progress or complete, start is equal to the actual start.
Finish	uuu_P6Finish	Finish date is equal to the early finish when an activity has no progress. When the activity is in progress, finish will remain equal to early finish. When the activity is complete, finish date is equal to the actual finish date.
Actual Start	uuu_P6ActualStart	If work has started, the date on which the activity, WBS, project, or EPS began. If resources (labor, non-labor, or material) or roles are assigned to the activity, the actual start date is the earliest among all the resource or role assignments. For a WBS, project, or EPS, the actual start date is the earliest actual start date among all activities within the WBS, project, or EPS. When P6 is integrated with Unifier, the Actual Start date might have been imported from Unifier rather than calculated by P6.

Assignment Attribute	Data Element	Calculation
Actual Finish	uuu_P6ActualFinish	The date on which the item, such as an activity, assignment, or project, is complete. When P6 is integrated with Unifier, the Actual Finish date might have been imported from Unifier rather than calculated by P6.
Actual Duration	uuu_P6ActualDuration	The total working time from the Actual Start date to the Actual Finish date for completed activities, or the total working time from the Actual Start date to the data date for in-progress activities. The actual working time is computed using the activity's calendar.
Remaining Early Start	uuu_P6RemainingEarlyStart	Remaining early start date is basically the earliest date the activity can start or continue after the data date. If the Activity has no progress then remaining early dates are set equal to the early dates. If progress follows as expected, the remaining early start is equal to the data date. After the activity is complete, remaining early start is blanked out.
Remaining Early Finish	uuu_P6RemainingEarlyFinish	Remaining early finish is calculated by adding the remaining duration to remaining early start. After the activity is complete, remaining early finish is blanked out.
Remaining Duration	uuu_P6RemainingDuration	The total working time from the activity remaining start date to the remaining finish date. The remaining working time is calculated using the activity's calendar. Before the activity is started, the remaining duration is the same as the planned duration. After the activity is completed the remaining duration is zero.
At Completion Duration	uuu_P6AtCompletionDuration	The total working time from the activity's current start date to the current finish date. The current start date is the planned start date until the activity is started, and then it is the actual start date. The current finish date is the activity planned finish date while the activity is not started, the remaining finish date while the activity is in progress, and the actual finish date after the activity is completed. The total working time is calculated using the activity's calendar.

Assignment Attribute	Data Element	Calculation
Primary Constraint	uuu_P6PrimaryConstraint	A user-imposed date restriction can be applied to an activity that impacts the scheduling of dependent activities. For example, use the Start On or After constraint to specify the earliest date on which an activity can begin.
Secondary Constraint	uuu_P6SecondaryConstraint	A maximum of two constraints - a primary and a secondary can be applied to an activity. To specify a secondary constraint, a valid primary constraint must first be applied to the activity.

Activity Attributes (Units)

Assignment Attribute	Data Element	Calculation
Planned Total Units	uuu_P6PlannedTotalUnits	The planned units of work for the activity.
Actual Total Units	uuu_P6ActualTotalUnits	The exact number of units that have been expended on the selected activity.
Remaining Total Units	uuu_P6RemainingTotalUnits	The remaining units of work to be performed by the resource on the activity. Calculated as Planned Units minus Actual Units.
At Completion Total Units	uuu_P6AtCompletionTotalUnits	The sum of the actual units and remaining units for the resource assignment on the activity. Calculated as Actual Units plus Remaining Units.

Activity Attributes (Cost)

Assignment Attribute	Data Element	Calculation
Planned Total Cost	uuu_P6PlannedTotalCost	The expected total cost of the activity, consolidating costs of all assignments.
Actual Total Cost	uuu_P6ActualTotalCost	The actual non-overtime plus overtime cost for all the resource assignments of the activity.
Remaining Total Cost	uuu_P6RemainingTotalCost	The remaining cost of all the resource assignments for the activity.
At Completion Total Cost	uuu_P6AtCompletionTotalCost	The sum of the actual costs plus remaining costs for the resource assignment on the activity. Calculated as Actual Costs plus Remaining Costs.

Activity Attributes - Earned Value

Assignment Attribute	Data Element	Calculation
Planned Value (PV)	uuu_P6PVCost	The portion of the baseline total cost of the activity or project that is scheduled to be completed as of the project data date.
Earned Value (EV)	uuu_P6EVCost	The portion of the project baseline total cost of an activity or all activities in the project that are actually completed as of the project data date. Budget at completion is calculated from the project baseline. Calculated as Budget At Completion multiplied by Performance Percent Complete.
Estimate to Complete (ETC)	uuu_P6ETC	The estimated cost to complete the activity, WBS, or project. Calculated as Remaining Total Cost for the activity or the Performance Factor multiplied by (Budget At Completion minus Earned Value), depending on the Earned Value technique selected for the activity's WBS (calculated from the primary baseline). Budget at completion is calculated from the project baseline.
Schedule Performance Index (SPI)	uuu_P6SPIndex	A measure of the work accomplished as a percentage of the work scheduled. Schedule Performance Index indicates whether you are meeting earned and planned values within your schedule. A value less than 1 indicates that less work was performed than was scheduled. Calculated as Earned Value divided by Planned Value.
Cost Performance Index (CPI)	uuu_P6CPIndex	A measure of the value of work accomplished as a percentage of the actual costs. Cost Performance Index (CPI) indicates whether you have spent money over the budget to date. On the My Preferences page in P6, you can set performance thresholds for CPI calculated values to determine whether you need to take corrective action. Calculated as Earned Value Cost divided by Actual Cost. A value less than 1 indicates that the actual cost has exceeded the planned value.
Cost Schedule Index (CSI)	uuu_P6CSIndex	Product of Schedule Performance Index and Cost Schedule Index.

Assignment Attribute	Data Element	Calculation
Schedule Variance	uuu_P6ScheduleVariance	The measure of schedule performance on a project. A negative value indicates that less work was actually performed than was scheduled. Calculated as Earned Value minus Planned Value.
Cost Variance	uuu_P6CostVariance	A measure of cost performance on an activity, WBS, or project. A negative value indicates that the actual cost has exceeded the planned value. Calculated as Earned Value minus Actual Cost.
To Complete Performance Index	uuu_P6TCPIndex	The ratio of the remaining work to the remaining funds. Calculated as (Budget at Completion minus Earned Value) divided by (Estimate at Completion minus Actual Units or Cost).
Estimate at Completion	uuu_P6EACCost	The expected total cost of a schedule activity, a work breakdown structure component, or the project when the defined scope of work will be completed. Calculated as Actual Cost plus Estimate to Complete Cost. The method for calculating estimate to complete depends on the earned value technique selected for the activity's WBS.
Budget at Completion	uuu_P6BAC	The planned total cost through activity or project completion. Calculated as Planned Labor Cost plus Planned Non-labor Cost plus Planned Expense Cost plus Planned Material Cost.
Variance at Completion	uuu_P6VAC	The difference between the baseline total cost and the current estimate of total cost. A negative value indicates an estimated cost overrun. Budget At Completion is calculated from the current baseline. Calculated as Budget At Completion minus Estimate At Completion.

Resource Attributes

Assignment Attribute	Data Element	Calculation
ID	uuu_P6ResourceID	Resource code from P6.
Name	uuu_P6ResourceName	Resource name from P6; It can be a team name or resource name depending on the rate assigned to that level.

Assignment Attribute	Data Element	Calculation
Status	uuu_P6ResourceStatus	Status of the resource - Active/Inactive.
Currency	uuu_P6RateCurrency	Currency for the rate.

Role Attributes

Assignment Attribute	Data Element	Calculation
ID	uuu_P6RoleID	Role code from P6
Name	uuu_P6RoleName	Role name from P6; It can be a team name or role name depending on the rate assigned to that level.
Status	uuu_P6RoleStatus	Status of the role - Active/Inactive
Currency	uuu_P6RateCurrency	Currency for the rate

Rate Sheet - Rate Tab

Assignment Attribute	Data Element	Calculation
Effective Date	uuu_P6RateEffectiveFrom	Date from which the rate is applicable.
Price/Unit	uuu_P6priceperunit	Rate or price per unit.

Earned Value Management Templates

The following templates are available for the Earned Value Management:

- OBS Templates
- WBS Templates

OBS Templates

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Templates**, and then select **OBS Sheets**.
3. In the **OBS Sheets** log, select **Create** to open the **Create OBS Sheet** window.
4. Enter a name in the **Name** field.
5. Enter a description in the **Description** field.
6. Select **Create**. The **OBS Sheets** log displays the newly created OBS sheet.
7. Select the *gear menu* () on the new OBS sheet, and select **Open**.

8. Proceed to create an OBS structure, under **Templates**. This can be used when creating the OBS in a shell (see [Creating an OBS Sheet](#)).

WBS Templates

No templates are needed for WBS sheet as the WBS sheet is created directly by way of P6 and Unifier Integration.

Earned Value Management Configuration Package

The following configuration packages are available for Earned Value Management:

- OBS Configuration Package
- WBS Configuration Package

OBS Configuration Package

To access the package:

1. Go to the **Company Workspace** tab, and switch to **Admin** mode.
2. In the left Navigator, select **Configuration Package Management**, and then select **Component Lists**.
3. From the toolbar, select **Create**.
4. In the **New Component List**, locate the **Activity Manager** section, and then locate **OBS Attributes**.

WBS Configuration Package

If you have access to the Schedule Manager feature, which was deprecated starting with version 23.5, the WBS Sheet design is also available as an option when you create a configuration package.

6

Using Visualizations

Visualizations Overview

[Video: Using Unifier Visualizations in User Mode](#)

Visualizations are an approach to render data in a graphical or pictorial format to help you identify and understand underlying trends and nuances of the data in an intuitive manner. Using various types of charts, grids, and Key Performance Indicators (KPIs) from multiple data sources, project/shell users can manage content, edit, and view visualizations to provide a pictorial representation of critical information and key insights related to record and line-item data from business process (BP) records.

You can begin working with visualizations when Project/Shell Administrators give you access to the Visualizations node in the projects/shells you have access to.

Based on permissions, you can perform specific types of visualization tasks in each project/shell, such as:

- [Access the Visualizations Log in a Project/Shell \(User Mode\)](#)
- [Edit Visualizations in Projects/Shells](#)
- [Create or Edit Content Items for Visualizations](#)
- [Remove Content Items From Visualizations in Projects/Shells](#)
- [Rearrange the Visualization Layout](#)

Users with access to visualizations in projects/shells in the User mode should review this information.

Permission-Based Visualization Tasks for Project/Shell Users

Visualization users can perform tasks based on their visualization permissions and their access to specific projects/shells. Your Project/Shell Administrator can assign any of the following permissions to perform corresponding visualizations tasks:

- **Manage Content:** You can edit visualizations in a project/shell by creating new content and modifying existing content. By default, you also get modify and view permissions in the User mode.
- **Modify:** You can edit visualizations in a project/shell by modifying only the displayed content. By default, you also get view permission in the User mode.
- **View (Default):** You can only view visualizations in a project/shell in the User mode.

The following visualization tasks can be performed by users/groups assigned with each permission:

Visualization Tasks	Modify Content Permission	Modify Permission	View Permission

View visualizations in multiple tabs	Yes	Yes	Yes
Edit visualizations in multiple tabs	Yes	Yes	No
Rearrange visualization layout and content items	Yes	Yes	No
Add content items from the content library	Yes	Yes	No
Create and edit content items in the content library	Yes	No	No
Remove content items from the library	Yes	No	No
Edit content items in the layout	Yes	Yes	No
Remove content items from the layout	Yes	Yes	No

Access the Visualizations Log in a Project/Shell (User Mode)

Project/Shell users can access visualizations from the Visualizations node or from a Business Process log node. The Visualization node is visible if your Project/Shell Administrator has assigned visualization permissions in the projects/shells you have access to.

To access the Visualizations log in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. On the **Visualizations** page (right pane), the following information is displayed for each visualization:
 - **Name:** Name of the visualization. For example, a visualization called *RFI Summary*.
 - **Description:** (Optional) A short statement that outlines the purpose of the visualization.
 - **Location:** (Optional) The location of the visualization in the left Navigator in the **User** mode.
If a location is specified, the visualization will display under the selected business process node in the **User** mode. For example, a **Visualizations** list will display in the **Contracts** business process log (right pane).

(Default) If a location is not specified, the visualizations will display under the **Visualizations** node in the left Navigator.

- **Last Modified Date:** The most recent date that the visualization was modified.
 - **Last Modified By:** The name of the user who last modified the visualization.
5. (Optional) To further focus on a subset of visualizations displayed in the **Visualizations** log (right pane), select any of the following search filters:
- **Location:** Select this filter to focus on visualizations in a specific location or node. For example, visualizations in the **Contracts** business process node.
 - **Last Modified Date:** Select this filter and enter a date range to select only those visualizations that were last modified between the selected dates.
 - **Last Modified By:** Select this filter to focus on visualizations modified by a specific user.

Based on the visualization permissions assigned to you as Project/Shell users, you can perform certain types of visualization tasks from the **Visualizations** log. See [Permission-Based Visualization Tasks for Project/Shell Users](#).

Keyboard Navigation

You can use your computer keyboard to navigate through the application. Use the following keyboard shortcuts to access frequently used or important functionality. Note that keyboard shortcuts may change depending on your selected browser, and disabled buttons/fields are skipped.

Common Shortcuts

Action	Windows Shortcut Key	Mac Shortcut Key
Move right through elements in a log/page (right pane)	Press Tab	Press Tab
Move left through the elements in a log/page (right pane)	Press Shift+Tab	Press Shift+Tab
Select a current focus element	Press Spacebar or Enter	Press Spacebar or Enter

Edit Visualizations in Projects/Shells

Project/Shell users can edit visualizations by using default content items in the Content Library. These items are provided by your Project/Shell Administrators. If you have the Manage Content permission, you can create content items in the Content Library, which can then be used in visualizations. For more information, see [Create or Edit Content Items for Visualizations](#).

To edit visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select **Create**.
5. In the **Create Visualization** drawer, enter the following information:
 - a. In the **Name** field, enter a user-friendly name for the visualization.
 - b. (Optional) In the **Description** field, enter a short description of the visualization.
 - c. (Optional) From the **Location** list, select the location of the visualization in the left Navigator. For example, select **Document Issues** to display the **Visualizations** node under the **Document Issues** business process in the **User** mode.

(Default) If a location is not specified, the visualization displays in the **Visualization** node of the project/shell in the **User** mode.
 - d. Select **Continue** to select a layout for the visualization.

Note

You can select **Cancel** in any step to discontinue creating the visualization.

6. In the **Choose layout to start** drawer, select a layout for the visualization. Options include:
 - 1-panel collection
 - 2-panel hero visualization
 - 2-panel side-by-side
 - 2-panel vertical collection
 - 3-panel auto fit
 - 3-panel collection
 - 5-panel collection
7. In the selected blank layout page, select **Library**.
8. In the **Library** drawer, select the **Content** tab.
 - The name of the content item.
 - The type of content, such as a KPI card, Bar chart, and so on.
 - The data source used for creating the content item.
 - The published status can be any of the following:
 - **Synced**: Indicates the published content item is in sync with the saved version.
 - **Local**: Indicates the content item has been newly created and is available only in this project/shell.
9. Select a content item, and then select and drag the item onto a block in the visualization layout. Repeat to populate all blocks in the layout. For example, select and drag a stacked Bar chart to the layout.
10. (Optional) Select **Create** if you want to create new content items for the visualization. See [Create or Edit Content Items for Visualizations](#).
11. Perform any of the following actions in any order:

- In the **Search** bar, locate a content item by name, data source, view type (such as a Bar chart, Area chart, and so on), or published status.
 - Select **Refresh** (🔄) to refresh the list of displayed content items.
 - Select the **Layout** tab to change the visualization layout.
12. If you have Modify permission, you can add one or more tabs. Select **Add new tab** (+), adjacent to the **Default** or a renamed tab, and repeat the previous step in each tab. Tab names cannot exceed a maximum of 120 characters.
- Add, remove, or update a maximum of 15 tabs with layout and content.
 - Select a different layout in each tab.
 - Drag and reorder the tab sequence.
 - Set up independent filters for each tab.
 - Select **Save** to save changes across all tabs.
13. Make changes as needed to refine the above selections.
14. After populating the visualization, select **Create**. Return to the **Visualizations** log.

Create or Edit Content Items for Visualizations

Permissions determine whether project/shell users can create or edit visualizations in the User mode.

Project/shell users with the Modify permission can only edit existing visualizations by rearranging content items in a layout or selecting alternate content items from the library they have access to.

Project/Shell users with the Manage Content permission can create content items for visualizations in the content library of a project/shell. The Create page for such content items is initially labeled Local Copy. Upon creating content items, you can select and drag these content items onto the visualization layout. The status of these content items displays as Local to indicate the content item has been newly created and is available only in this project/shell.

You can create the following types of content items:

- [Create or Edit Area Charts, Bar Charts, and Line Charts for Visualizations in Projects/ Shells](#)
- [Create or Edit Bubble Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Combo Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Pie Charts and Donut Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Funnel Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Gauge Charts for Visualizations in Projects/Shells](#)
- [Create or Edit KPI Cards for Visualizations in Projects/Shells](#)
- [Create or Edit Pivot Grids for Visualizations in Projects/Shells](#)
- [Create or Edit Pyramid Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Scatter Charts for Visualizations in Projects/Shells](#)
- [Create or Edit Tables for Visualizations in Projects/Shells](#)

Create or Edit Area Charts, Bar Charts, and Line Charts for Visualizations in Projects/ Shells

You can create or edit Area charts, Bar charts, and Line charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Area charts, Bar charts, and Line charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
 5. On the **Edit** page, select **Edit** (✎) for a content item in the visualization layout; proceed to step 6b.
 6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Area Chart**, **Bar Chart**, or **Line Chart**.
 - c. In the **Name** field, enter a name for the chart.
 - d. (Optional) In the **Description** field, enter a short description about the chart.
 - e. From the **Value** list, select a data element from the data source selected above. Displays **Count** by default.

For the selected data element in the **Value** list, select any of the following measures:

- **Average**: The mean of all values of the selected data element.
- **Count**: (Default) The total number of rows of the selected data element.
- **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
- **Median**: The central value among all values of the selected data element.

- **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Percentage:** A percent of the filtered value from the total of the selected data element.
 - **Sum:** Sum of all values of the selected data element.
- f. (Optional) From the **Color By** list, select a data element to differentiate using a color code. Perform any of the following actions:
- To color-code additional data elements, click **Add Color By**.
 - To remove a color code and the associated data element, click **Delete (x)**.
 - If you have selected more than one color code, click **Drag (≡)** to reorder the color codes.
- g. From the **Category** list, select a data element that you can use as a category to differentiate the bars in the chart. Perform any of the following actions:
- To select a data element for the category, click **Add Category**.
 - To remove a category and the associated data element, click **Delete (x)**.
 - If you have selected more than one category, click **Drag (≡)** to reorder the categories.
- h. From the **Data Labels** list, select the location for displaying labels on the chart. Common options are:
- **Auto:** The default data label display setting for all types of charts.
 - **Center:** The data label displays in the center of an Area chart, Bar chart, or Line chart.
 - **None:** The data labels do not display in the chart.
- For Area charts and Line charts, the following additional options display:
- **Above Marker:** The data label displays above the marker point.
 - **Below Marker:** The data label displays below the marker point.
 - **Before Marker:** The data label displays before the marker point.
 - **After Marker:** The data label displays after the marker point.
- For Bar charts, the following additional options display:
- **Inside Bar Edge:** The data label displays on the inside edge in a Bar chart.
 - **Outside Bar Edge:** The data label displays on the outside edge in a Bar chart.
- i. From the **Orientation** list, select the orientation as either **Horizontal** or **Vertical** (default).
- j. In the **Stacked** field, toggle to show or hide a stacked Bar chart.
- k. In the **Show Category Axis Title** field, toggle to show or hide the label of the data element you selected for the X-axis.
- l. In the **Show Value Axis Title** field, toggle to show or hide the label of the data element you selected for the Y-axis.
- m. Make changes as needed to refine your selections.
7. After making all changes, perform any of the following actions:

- If you created an Area chart, Bar chart, or Line chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited content item, select **Update**, and return to the **Edit** page.
8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Bubble Charts for Visualizations in Projects/Shells

You can create or edit Bubble charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Bubble charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
 2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
 3. In the left Navigator, select **Visualizations**.
- or
- Access the **Visualizations** log from a business process log as follows:
- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
 5. On the **Edit** page, select **Edit** (✎) for a Bubble chart in the visualization layout. Proceed to step 6b.
 6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Bubble Chart**.
 - c. In the **Name** field, enter a name for the Bubble chart.
 - d. (Optional) In the **Description** field, enter a short description about the Bubble chart.
 - e. From the **Size By** list, select a data element to use as the criteria to size the bubble from the data source selected above. Displays **Count** by default.

For the selected data element in the **Size By** list, select any of the following measures:

- **Average:** The mean of all values of the selected data element.
- **Count:** (Default) The total number of rows of the selected data element.

- **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median:** The central value among all values of the selected data element.
 - **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Percentage:** A percent of the filtered value from the total of the selected data element.
 - **Sum:** Sum of all values of the selected data element.
- f. From the **X Axis** list, select a data element.
- For the selected data element in the **X-Axis** list, select any of the following measures:
- **Average:** The mean of all values of the selected data element.
 - **Count:** (Default) The total number of rows of the selected data element.
 - **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median:** The central value among all values of the selected data element.
 - **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Percentage:** A percent of the filtered value from the total of the selected data element.
 - **Sum:** Sum of all values of the selected data element.
- g. From the **Y Axis** list, select a data element.
- For the selected data element in the **Y-Axis** list, select any of the following measures:
- **Average:** The mean of all values of the selected data element.
 - **Count:** (Default) The total number of rows of the selected data element.
 - **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median:** The central value among all values of the selected data element.
 - **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Percentage:** A percent of the filtered value from the total of the selected data element.
 - **Sum:** Sum of all values of the selected data element.
- h. (Optional) From the **Color By** list, select one or more data elements to measure using a color-code. Perform any of the following actions:
- To color-code additional data elements, click **Add Color By**.
 - To remove a color code and the associated data element, click **Delete (x)**.
 - If you have selected more than one color code, click **Drag (≡)** to reorder the color codes.
- i. From the **Category** list, select a data element to use as a category to differentiate the bars in the chart. Perform any of the following actions:
- To select a data element for the category, click **Add Category**.

- To remove a category and the associated data element, click **Delete (x)**.
 - If you have selected more than one category, click **Drag (≡)** to reorder the categories.
- j. From the **Data Labels** list, select the location for displaying labels on the chart. Choices include:
- The following options display:
- **Auto**: The default data label display setting for all types of charts.
 - **Center**: The data label displays in the center of each data point on an Area chart, Bar chart or Line chart.
 - **Above Marker**: The data label displays above the marker point.
 - **Below Marker**: The data label displays below the marker point.
 - **Before Marker**: The data label displays before the marker point.
 - **After Marker**: The data label displays after the marker point.
 - **None**: The data labels do not display on the chart.
- k. In the **Show X Axis Title** field, slide right to display the label of the data element you selected for the X-axis (See step g).
- l. In the **Show Y Axis Title** field, slide right to display the label of the data element you selected for the Y-axis (See step h).
- m. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
- If you created a Bubble chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited Bubble chart, select **Update**, and return to the **Edit** page.
8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Combo Charts for Visualizations in Projects/Shells

You can create or edit Combo charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Combo charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.

4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a content item in the visualization layout; proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell, and then select **Preview Data**.
 - b. From the **View Type** list, select **Combo Chart**.
 - c. In the **Name** field, enter a name for the Combo chart.
 - d. (Optional) In the **Description** field, enter a short description about the Combo chart.
 - e. From the **Values** list, select a data element from the data source selected above. A maximum of three values can be selected for a Combo chart. For each value, select a type of chart (Bar, Line, or Area) and a measure listed below. Displays **Count** by default.

For each data element selected in the **Value** list, select any of the following measures:

- **Average**: The mean of all values of the selected data element.
 - **Count**: (Default) The total number of rows of the selected data element.
 - **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median**: The central value among all values of the selected data element.
 - **Min**: For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum**: Sum of all values of the selected data element.
- f. (Optional) From the **Color By** list, select a data element to measure using a color-code. A maximum of three Color By values can be selected for a Combo chart. Perform any of the following actions:
 - To color-code additional data elements, select **Add Color By**.
 - To remove a color code and the associated data element, select **Delete (x)**.
 - If you have selected more than one color code, select **Drag** (≡) to reorder the color codes.
 - g. From the **Category** list, select a data element to use as a category to differentiate the bars on the chart. A maximum of three categories can be selected for a Combo chart. Perform any of the following actions:
 - To select a data element for the category, select **Add Category**.
 - To remove a category and the associated data element, select **Delete (x)**.
 - If you have selected more than one category, select **Drag** (≡) to reorder the categories.

- h. From the **Data Labels** list, select the position for displaying labels on the charts. Choices include:
The following options display:
 - **Auto**: The default data label display setting for all types of charts.
 - **Center**: The data label displays in the center of each data point on an Area chart, Bar chart or Line chart.
 - **Above Marker**: The data label displays above the marker point.
 - **Below Marker**: The data label displays below the marker point.
 - **Before Marker**: The data label displays before the marker point.
 - **After Marker**: The data label displays after the marker point.
 - **None**: The data labels do not display on the chart.
 - i. From the **Orientation** list, select **Vertical** or **Horizontal**.
 - j. In the **Stacked** field, toggle to hide or display stacked bar charts in the Combo chart.
 - k. In the **Show Color by Axis Title** field, toggle to hide or display the label of the data element you selected for the X-axis in the **Color By** field (Step f).
 - l. In the **Show Values Axis Title** field, toggle to hide or display the label of the data element you selected for the Y-axis in the Values list (Step e).
 - m. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a Combo chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited Combo chart, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Pie Charts and Donut Charts for Visualizations in Projects/Shells

You can create or edit Pie charts and Donut charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Pie charts and Donut charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:

- Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a Pie chart or Donut chart in the visualization layout. Proceed to step 6b.
 6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Pie Chart**.
 - c. In the **Name** field, enter a name for the bubble chart.
 - d. (Optional) In the **Description** field, enter a short description about the bubble chart.
 - e. From the **Value** list, select a data element from the data source selected above. Displays **Count** by default.

For the selected data element in the **Value** list, select any of the following measures:

- **Average**: The mean of all values of the selected data element.
 - **Count**: (Default) The total number of rows of the selected data element.
 - **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median**: The central value among all values of the selected data element.
 - **Min**: For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum**: Sum of all values of the selected data element.
- f. (Optional) From the **Color By** list, select one or more data elements to measure using a color code. Perform any of the following actions:
 - To color-code additional data elements, click **Add Color By**.
 - To remove a color code and the associated data element, click **Delete (x)**.
 - If you have selected more than one color code, click **Drag (≡)** to reorder the color codes.
 - g. From the **Data Labels** list, select the location for displaying labels on the bar chart. Choices include:

The following options display:

 - **Auto**: The default data label display setting for all types of charts.
 - **Center**: The data label displays in the center of each data point on an Area chart, Bar chart or Line chart.
 - **Above Marker**: The data label displays above the marker point.
 - **Below Marker**: The data label displays below the marker point.
 - **Before Marker**: The data label displays before the marker point.
 - **After Marker**: The data label displays after the marker point.

- **None:** The data labels do not display in the chart.
 - h. In the **Donut** field, slide right to display the pie chart shaped as a donut chart.
 - i. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a Pie chart or Donut chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited charts, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Funnel Charts for Visualizations in Projects/Shells

You can create or edit Funnel charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Funnel charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.
or
Access the **Visualizations** log from a business process log as follows:
 - a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select (**Edit** ) for a content item in the visualization layout; proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Funnel Chart**.
 - c. In the **Name** field, enter a name for the Funnel chart.
 - d. (Optional) In the **Description** field, enter a short description about the bubble chart.
 - e. From the **Value** list, select a data element from the above selected data source to represent the actual value measured in each stage. This is represented by the filled-in area of each horizontal slice of the Funnel chart. Displays **Count** by default.

For the selected data element in the **Value** list, select any of the following measures:

- **Average:** The mean of all values of the selected data element.
 - **Count:** (Default) The total number of rows of the selected data element.
 - **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median:** The central value among all values of the selected data element.
 - **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum:** Sum of all values of the selected data element.
- f. From the **Target Value** list, select a data element to represent the goals to be achieved at each stage as a horizontal slice in the Funnel chart.
 - g. (Optional) From the **Color By** list, select one or more data elements to measure using a color code. Perform any of the following actions:
 - To color-code additional data elements, click **Add Color By**.
 - To remove a color code and the associated data element, click **Delete (x)**.
 - If you have selected more than one color code, click **Drag (≡)** to reorder the color codes.
 - h. From the **Data Labels** list, select the location for displaying labels on the bar chart. Choices include:
The following options display:
 - **Auto:** The default data label display setting for all types of charts.
 - **Center:** The data label displays in the center of each data point on an Area chart, Bar chart or Line chart.
 - **Above Marker:** The data label displays above the marker point.
 - **Below Marker:** The data label displays below the marker point.
 - **Before Marker:** The data label displays before the marker point.
 - **After Marker:** The data label displays after the marker point.
 - **None:** The data labels do not display in the chart.
 - i. In the **Donut** field, slide right to display the pie chart shaped as a donut chart.
 - j. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a Funnel chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited Combo chart, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Gauge Charts for Visualizations in Projects/Shells

You can create or edit Gauge charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Gauge charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.
or
Access the **Visualizations** log from a business process log as follows:
 - a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a content item in the visualization layout; proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Gauge Chart**.
 - c. In the **Name** field, enter a name for the Gauge chart.
 - d. (Optional) In the **Description** field, enter a short description about the Gauge chart.
 - e. From the **Value** list, select a data element from the data source selected above. Displays **Count** by default.
For each data element selected in the **Value** list, select any of the following measures:
 - **Average**: The mean of all values of the selected data element.
 - **Count**: (Default) The total number of rows of the selected data element.
 - **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median**: The central value among all values of the selected data element.
 - **Min**: For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum**: Sum of all values of the selected data element.
 - f. From the **Target** list, select a data element to use as a measure for targets.
 - g. In the **Threshold** field, specify a maximum of three thresholds to measure on the Gauge chart. For each threshold specify a range of values and a color code as follows:
 - i. Click **Add Threshold**.
 - ii. In the **Min** field, enter a minimum value for the threshold in the range 0 to 100.

- iii. In the **Max** field, enter the maximum value for the threshold in the range 0 to 100.
- iv. From the **Color** () list, associate a color for each threshold defined.
- h. From the **Currency Options** list, select the currency used by the project/shell. Choices include: **None**, **Base Currency**, and **Shell Currency**.
- i. In the **Shape** field, select the shape of the Gauge chart as **Circle** or **Semi-circle**.
- j. Make changes as needed to refine the above selections.
- 7. After making all changes, perform any of the following actions:
 - If you created a Gauge chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited charts, select **Update**, and return to the **Edit** page.
- 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit KPI Cards for Visualizations in Projects/Shells

You can create or edit KPI cards for visualizations if you have the Manage Content permission to perform this task. A maximum of eight KPIs can be included in a visualization.

To create or edit KPI cards for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
 2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
 3. In the left Navigator, select **Visualizations**.
- or
- Access the **Visualizations** log from a business process log as follows:
- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
 4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
 5. On the **Edit** page, select **Edit** () for a KPI card in the visualization layout. Proceed to step 6b.
 6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **KPI Card**.
 - c. In the **Name** field, enter a name for the KPI card.

- d. (Optional) In the **Description** field, enter a short description about the KPI card.
 - e. From the **Value** list, select a data element from the data source selected above. Displays **Count** by default.

For the selected data element in the **Value** list, select any of the following measures:

 - **Average**: The mean of all values of the selected data element.
 - **Count**: (Default) The total number of rows of the selected data element.
 - **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median**: The central value among all values of the selected data element.
 - **Min**: For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum**: Sum of all values of the selected data element.
 - f. From the **Period** list, select a data element to measure time for the data element selected in the previous step. Select any of the following to further specify the time period:
 - **No Period**: (Default) Does not display a measure of time on the KPI card.
 - **Today**: Displays today's date in the format based on the user's preferences.
 - **Current Month**: Displays the month and the year in the format, MONTH YYYY.
 - **Current Year**: Displays the year on the KPI card in the format, YYYY.
 - **Current Quarter**: Displays the year on the KPI card in the format, Q<#> YYYY.
 - g. For KPIs that display currency and amounts, select the display format as follows:
 - i. From the **Decimal Places** list, select display format for decimal values from 0 (default) to 8 places. For example, select 2 to display values in *nn.dd* format.
 - ii. From the **Abbreviation (Show in thousands, millions etc)** list, select one from the following:
 - **Auto** (default)
 - **None**
 - **Thousands (K)**
 - **Millions (M)**
 - **Billions (B)**
 - **Trillions (T)**
 - h. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a KPI card, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited card, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Pivot Grids for Visualizations in Projects/Shells

You can create or edit Pivot grids for visualizations if you have the **Manage Content** permission to perform this task.

To create or edit Pivot grids for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a Pivot Grid in the visualization layout. Proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Pivot Grid**.
 - c. In the **Name** field, enter a name for the Pivot grid.
 - d. (Optional) In the **Description** field, enter a short description about the Pivot grid.
 - e. From the **Value** list, select a data element from the data source selected above. Displays **Count** by default.

For the selected data element in the **Value** list, select any of the following measures:

- **Average**: The mean of all values of the selected data element.
- **Count**: (Default) The total number of rows of the selected data element.
- **Max**: For numeric fields, displays the highest value. For date fields, displays the maximum date.
- **Median**: The central value among all values of the selected data element.
- **Min**: For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
- **Sum**: Sum of all values of the selected data element.

- f. From the **Columns** list, select a data element to create columns for the Pivot grid.
- g. (Optional) To include additional column tiers in the Pivot grid, click **Add Columns**.
- h. From the **Rows** list, select a data element to create rows for the Pivot grid.
- i. (Optional) Click **Add Rows** to include additional row tiers in the Pivot grid.
- j. (Optional) In the **Show Totals** field, toggle to show or hide the column totals in the grid.
- k. To visually highlight specific fields in the Pivot Grid, [Configure and Manage Conditional Formatting of Tables and Pivot Grids](#).
- l. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a Pivot grid, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited grid, select **Update**, and return to the **Edit** page.
8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Pyramid Charts for Visualizations in Projects/Shells

You can create or edit Pyramid charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Pyramid charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
 2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
 3. In the left Navigator, select **Visualizations**.
- or
- Access the **Visualizations** log from a business process log as follows:
- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
 5. On the **Edit** page, select (**Edit** ) for a content item in the visualization layout; proceed to step 6b.
 6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell, and then select **Preview Data**.

- b. From the **View Type** list, select **Pyramid Chart**.
- c. In the **Name** field, enter a name for the Pyramid chart.
- d. (Optional) In the **Description** field, enter a short description about the Pyramid chart.
- e. From the **Value** list, select a data element from the data source selected above. A maximum of three values can be selected for a Pyramid chart. Displays **Count** by default.

For each data element selected in the **Value** list, select any of the following measures:

- **Average:** The mean of all values of the selected data element.
 - **Count:** (Default) The total number of rows of the selected data element.
 - **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
 - **Median:** The central value among all values of the selected data element.
 - **Min:** For numeric fields, displays the lowest value of the selected data element. For date fields, displays the minimum date.
 - **Sum:** Sum of all values of the selected data element.
- f. (Optional) From the **Color By** list, select a non-numeric data element to differentiate using a color-code. A maximum of six colors can be added in the chart. Perform any of the following actions:
 - To color-code additional data elements, select **Add Color By**.
 - To remove a color code and the associated data element, select **Delete (x)**.
 - If you have selected more than one color code, select **Drag (=)** to reorder the color codes.
 - g. From the **Currency Options** list, select the currency used by the project/shell. Choices include: **None**, **Base Currency**, and **Shell Currency**.
 - h. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a Pyramid chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited chart, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Scatter Charts for Visualizations in Projects/Shells

You can create or edit Scatter charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Scatter charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
 2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
 3. In the left Navigator, select **Visualizations**.
- or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), perform any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select (**Edit** ) for a content item in the visualization layout; proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell, and then select **Preview Data**.
 - b. From the **View Type** list, select **Scatter Chart**.
 - c. In the **Name** field, enter a name for the Scatter chart.
 - d. (Optional) In the **Description** field, enter a short description about the Scatter chart.
 - e. From the **Y-Axis** list, select a data element from the data source selected in step 5b. The selected values display as metrics on the y-axis. Displays **Count** by default.

For the selected data element in the **Values** list, select any of the following measures:

- **Average:** The mean of all values of the selected data element.
- **Count:** (Default for non-numeric data elements) The total number of rows of the selected data element.
- **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
- **Median:** The central value among all values of the selected data element.
- **Min:** For numeric fields, displays the lowest value of the selected data element. This measure is not applicable to date fields.
- **Percentage:** A percent of the filtered value from the total of the selected data element.
- **Sum:** Sum of all values of the selected data element.
- f. From the **X-Axis** list, select a data element from the data source selected in step 5b. The selected values display as metrics on the y-axis. Displays **Count** by default.

For the selected data element in the **Values** list, select any of the following measures:

- **Average:** The mean of all values of the selected data element.
- **Count:** (Default for non-numeric data elements) The total number of rows of the selected data element.
- **Max:** For numeric fields, displays the highest value. For date fields, displays the maximum date.
- **Median:** The central value among all values of the selected data element.

- **Min:** For numeric fields, displays the lowest value of the selected data element. This measure is not applicable to date fields.
 - **Percentage:** A percent of the filtered value from the total of the selected data element.
 - **Sum:** Sum of all values of the selected data element.
- g. (Optional) From the **Color By** list, select a non-numeric data element to differentiate using a color-code. A maximum of three colors can be added in the chart. Perform any of the following actions:
- To color-code additional data elements, select **Add Color By**.
 - To remove a color code and the associated data element, select **Delete (x)**.
 - If you have selected more than one color code, select **Drag (=)** to reorder the color codes.
- h. From the **Category** list, select a non-numeric data element to use as a metric on the x-axis. A maximum of three categories can be included on the chart. Perform any of the following actions:
- To select a data element for the category, select **Add Category**.
 - To remove a category and the associated data element, select **Delete (x)**.
 - If you have selected more than one category, select **Drag (=)** to reorder the categories.
- i. From the **Markers** list, select a data element to associate different shapes with distinct groups to differentiate between data points on the Scatter chart.
- For example, RFIs associated with the Architectural discipline display as diamond shapes whereas Electrical discipline display as squares.
- j. From the **Currency Options** list, select the currency used by the project/shell. Choices include: **None**, **Base Currency**, and **Shell Currency**.
- k. From the **Data Labels** list, select the location for displaying labels on the Scatter chart. Common options are:
- **Auto:** The default data label display setting for all types of charts.
 - **Center:** The data label displays in the center of an Area chart, Bar chart, or Line chart.
 - **None:** The data labels do not display in the chart.
 - **Above:** The data label displays above the marker point.
 - **Below:** The data label displays below the marker point.
 - **Before:** The data label displays before the marker point.
 - **After:** The data label displays after the marker point.
- l. In the **Zoom and Scroll** field, toggle to enable or disable the ability to zoom and scroll the Scatter chart.
- m. In the **Show X Axis Title** field, toggle to show or hide the label of the data element selected for the X-axis (See step g).
- n. In the **Show Y Axis Title** field, toggle to show or hide the label of the data element selected for the Y-axis (See step f).
- o. Make changes as needed to refine the above selections.

7. After making all changes, perform any of the following actions:
 - If you created a Scatter chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited chart, select **Update**, and return to the **Edit** page.
8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Tables for Visualizations in Projects/Shells

You can create or edit tables for visualizations if you have the Manage Content permission to perform this task.

To create or edit tables for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a table in the visualization layout. Proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then click **Preview Data**.
 - b. From the **View Type** list, select **Table**.
 - c. In the **Name** field, enter a name for the table.
 - d. (Optional) In the **Description** field, enter a short description about the table.
 - e. From the **Columns** list, select a data element to create columns for the table.
 - f. (Optional) To include additional columns in the table, click **Add Columns** and select a data element.
 - g. From the **Group By** list, select a data element to organize the information based on a specific characteristic. For example, group RFIs based on the RFI reasons.
 - h. (Optional) In the **Show Totals** field, toggle to show or hide the column totals in the grid.

- i. To visually highlight specific fields in the Pivot Grid, [Configure and Manage Conditional Formatting of Tables and Pivot Grids](#).
 - j. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created a table, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited table, select **Update**, and return to the **Edit** page.
8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Create or Edit Timeline Charts for Visualizations in Projects/Shells

You can create or edit Timeline charts for visualizations if you have the Manage Content permission to perform this task.

To create or edit Timeline charts for visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode.
For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations** or
Access the **Visualizations** log from a business process log as follows:
 - a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell. Proceed to step 6.
 - Select a visualization in the log, and then select **Edit**. Proceed to step 5.
5. On the **Edit** page, select **Edit** (✎) for a Timeline chart in the visualization layout. Proceed to step 6b.
6. On the **Create** or **Edit** page, specify or update the following information:
 - a. To preview the data before creating the chart:
 - i. From the **Data Source** list, select the data source to use for creating the content item. The list shows published content in the alphabetical order.
 - ii. From the **Preview Project** list, select an active project/shell and then select **Preview Data**.
 - b. From the **View Type** list, select **Timeline Chart**.
 - c. In the **Name** field, enter a name for the Timeline chart.

Note

The combination of **Name** and **View Type** field values must be unique.

- d. (Optional) In the **Description** field, enter a short description about the Timeline chart.

- e. From the **Event Type** list, select **Single Event** (default) or **Duration Event**.
 - f. If you chose **Single Event**, from the **Category (Time Axis)**, select a date field that defines the event timeline.
 - g. From the **Event Title** list, select a data element that can be used as the title for the timeline event.
 - h. From the **Event Detail** list, select a maximum of two event details to track in the timeline chart.
 - To add a another event detail, select **Add**.
 - To remove an event detail and its associated data element, select **Delete (x)**.
 - i. If you chose a **Duration Event**, in the **Event Duration** field, select a date or date/time data element to choose the start date and end date of the duration of the Timeline chart.
 - j. From the **Color By** list, select a data element to measure using a color-code. To remove a color code and the associated data element, select **Delete (x)**.
 - k. From the **Orientation** list, select **Vertical** or **Horizontal** (default).
 - l. In the **Timeline Overview** field, toggle to hide or display a compressed overview of the entire timeline.
 - m. In the **Tooltip** field, toggle to hide or display tooltips when you hover over events on the Timeline chart.
 - n. Make changes as needed to refine the above selections.
7. After making all changes, perform any of the following actions:
 - If you created the Timeline chart, select **Create**, and return to the **Edit** page.
 - To confirm all the changes made to the edited Timeline chart, select **Update**, and return to the **Edit** page.
 8. On the **Edit** page, select **Save** to update the visualization with any created or edited content.

Edit Content Items in the Visualization Layout

Apart from editing content items you add to the Library, you can also edit content items on the visualization layout page if you have Manage Content or Modify permission to perform this task.

To edit content items from visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.

4. In the **Visualizations** log (right pane), select a visualization, and select **Edit**.
5. In the **Edit** page, select a content item *in the visualization layout*, and select **Edit** (✎).
6. Make changes to the content item, and then select **Update**.

The status of the content item displays as **Not Synced**.

Note

The changes made to the content item is specific to this instance of the visualization. These changes will not be the default for this content item.

Configure and Manage Conditional Formatting of Tables and Pivot Grids

Conditional formatting enhances the clarity of data in Table and Pivot Grid views by allowing you to set rules that visually highlight values based on criteria. You can use this to identify trends, outliers, or key metrics through defined formatting styles such as font color, background color, and font style.

Limitations

The following limitations apply:

- Only Table/Pivot Grid view is supported.
- Maximum 5 rules per column, 10 columns with rules, 5 conditions per rule.
- Rule names must be unique. At least one condition and style required.
- Conditional formatting not applicable to charts.
- Columns with rules cannot be removed until rules are deleted.
- Export to PDF retains formatting.

To configure and manage conditional formatting of tables and pivot grids in a project or shell

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
- b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select any of the following actions:
 - Select **Create** to add a new visualization in the project/shell.
 - Select a visualization in the log, and then select **Edit**.
5. On the **Edit** page, select a Pivot Grid or Table in the visualization layout.

6. From the **More Actions** (*******) menu, select **Conditional Formatting**.
7. In the **Conditional Formatting** drawer, select **Add** to create a new rule by specifying a maximum of 5 conditions:
 - a. (Required) In the **Rule Name** field, enter a unique rule name, a maximum length of 60 characters.
 - b. (Required) From the **Column** list, select a data element on which the rule will be applied.
 For Tables, select a data field for a column.
 For Pivot Grids, select a data field for a column, row, or value.
 - c. In the **Condition Builder** block, to define at least one condition:
 - i. Select **Any** (to apply any one condition) or **All** (to apply all conditions), and then select **Add** (+).
 - ii. (Required) From the **Data Element** list, select a data element to create a condition.
 - iii. (Required) From the **Condition** list, select a condition to apply on the selected data element such as **Contains**, **Does not contain**, **Is empty**, or **Is not empty**.
 - iv. (Required) From the **Value** list, enter a value that needs to be satisfied by the condition.
 - v. To add another condition, repeat the previous steps.
 - vi. To discard a specific condition or a group of conditions, select **Delete** (.
 - vii. Select any or all formatting options such as bold, italic, underline, strikethrough, text color, or background color.
 - viii. Preview and adjust the formatting as required, and then perform any of the following actions:
 - To add more rules, select **Create and Close** or **Create and Next**. Rules created for the same data element selected in the **Column** list are grouped together.
 - To discard the condition, select **Cancel**.

When multiple rules are specified, the Conditional Formatting drawer groups the rules by Column or Row.
8. After creating rules, perform any of the following actions from the **Actions** (*******) menu:
 - To edit a rule, select **Edit**.
 - To discard the rule, select **Remove**.
 - To reorder the rules, select **Drag**(**=**).

Remove Content Items From Visualizations in Projects/Shells

You can remove content items from the visualization layout as needed if you have Modify and/or Manage Content permission to perform this task.

To remove content items from visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.

2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.
or
Access the **Visualizations** log from a business process log as follows:
 - a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select a visualization, and select **Edit**.
5. In the **Edit** page, select a content item in the visualization layout, and select **Remove (X)**.

Rearrange the Visualization Layout

You can edit visualizations by adding content items from the library onto the visualization layout and rearranging content items on the visualization layout as needed if you have Modify or Manage Content permissions to perform this task.

To rearrange visualizations in a project/shell (User mode):

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.
or
Access the **Visualizations** log from a business process log as follows:
 - a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select a visualization, and select **Edit**.
5. In the **Edit** page, perform any of the following actions:
 - Select and drag a content from the **Content** tab of the **Library** to add content items in the visualization layout.
 - Select and drag a content item on the visualization layout to rearrange content items.
 - Select **Refresh** (🔄) to update the list of content items in the **Content** tab.
 - Select an alternative layout from the **Layout** tab of the **Library**.
6. Make changes as needed to refine the above selections.
7. After populating the visualization, select **Save**, and return to the Visualizations log.

Print Visualization PDFs

You can print and share visualizations or individual charts or components as PDFs for reporting or for performing an offline analysis.

If data caching is enabled, the timestamp is included below the visualization title in the downloaded PDF in the format, *Data as of <date and time>*.

To print a PDF of a visualization:

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the **Visualizations** log (right pane), select and open a specific visualization.
 5. Print using any of the following methods:
 - For visualizations in multiple tabs, select a specific tab to print the visualizations contained in that tab.
 - To print the entire visualization, select **Print** in the title bar.
 - To print a specific component or chart within the visualization:
 - a. Hover over the chart or component in the visualization, and select **Maximize** ().
 - b. From the **Overflow** menu () of the chart, select **Print**.
 - c. Specify the following printing preferences:
 - a. In the **Orientation** field, select the print layout as either **Portrait** or **Landscape**.
 - b. From the **Page Size** list, select any of the following print dimensions: **A4**, **Letter (8.5 x 11)**, **Legal (11 x 17)**, or **Unlimited** (to print very large grids).
 - c. Select **Print**.

The individual visualization component is printed in its entirety although the component may not be completely visible in the maximized UI layout.

Known Issue: When you use Firefox and Safari browsers, expect a delay in printing the visualization.

Use Filters to Search For Visualizations

To locate visualizations that meet a specific criteria, you can specify the following types of filters:

- Components such as charts, KPIs, grids, tables, and so on.
- Contexts such as status or time periods.
- Data elements, field labels, multi-select fields, and date ranges used in a visualization.
- Data types such as Integer, Double, and so on.

Visualizations with multiple tabs can be set up with independent filters for each tab.

Note

For filters, enter date values in dd/mm/yyyy format.

To locate visualizations using filters:

1. Sign in to Unifier with project/shell user credentials.
2. Select the specific project/shell tab, and switch to **User** mode. For example, select a tab called Vision Corporation.
3. In the left Navigator, select **Visualizations**.

or

Access the **Visualizations** log from a business process log as follows:

- a. In the left Navigator, select **Logs**, and then select a specific business process, such as Contracts.
 - b. In the selected business process log (right pane), just below the **User** mode indicator, select a specific visualization from the **Visualization** list.
4. In the Search bar, enter your initial search criteria.

Note

The system displays five of the most recent search entries relevant to the current visualization content.

5. To refine your search, specify:
 - A field and a value. For example, specify **Discipline** with a value, **Mechanical**.
 - A date field used in the visualization content.
For example:
 - a. To initially view a list of date fields available in the data source, enter **Date** in the search bar.
 - b. Select a specific date field from the displayed list, such as **Last Modified By**.
 - c. Enter or select a date range using the Calendar picker in the **Start** and **End** fields.
 - For currency and decimal fields, specify a maximum value, a minimum value, or a range of values.
6. From the search results, select a visualization. You can perform any of the following actions:
 - Continue to search and filter within the selected visualization.
 - Cancel the search by selecting **More Actions** (***), and then selecting **Cancel** (X).